Addendum to the Environmental Impact Assessment Report

NISA

North Irish Sea Array

Volume 5 - Wider Schemes Chapters

Chapter 35
Offshore Bats

Statkraft

CIP
Copenhagen Infrastructure Partners

GoBe
APEM Group

ARUP

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35. Offshore Bats

35.1 Introduction

North Irish Sea Array Windfarm Ltd (NISA, hereafter referred to as 'the Developer') has been considering the Request for Further Information (RFI) issued by An Bord Pleanála as well as the third-party submissions received following public consultation. At An Bord Pleanála's behest, the Developer has also continued to consult with stakeholders in respect of the 2024 planning application throughout 2024-2026. The Developer has refined elements of the design to respond to the third-party submissions, the continued public and stakeholder consultation and the RFI. Amendments are therefore required to Chapter 35 Offshore Bats of the 2024 Environmental Impact Assessment Report (EIAR). Full details of consultation undertaken can be found in Appendix A1.2 Consultation Report.

For the purposes of clarity, this document shall be read in conjunction with Chapter 35 Offshore Bats submitted as part of the 2024 EIAR.

Any cross reference to a chapter, section, table, image, figure or appendix within this document is to another location within the Addendum to the EIAR unless explicitly stated otherwise. Any cross reference to anything included in the 2024 EIAR will be clearly labelled as such.

Text in bold is only used throughout this document to indicate where changes are required, and why they are required. Text in italics is text from a section of the 2024 EIAR which is deleted, or quotations from other documents (as explicitly stated). Replacement text is in normal font.

Tables which have been updated from the 2024 EIAR, or entirely new tables, have been included in the Addendum to the EIAR. These tables can be identified by the "A" prefix in the table caption. Any changes within the updated table, in comparison to tables within the 2024 EIAR, are indicated by grey shading in the relevant cell, column or row, as necessary. The exception here is where a table has been replaced in its entirety.

The sections relevant to Chapter 35 in the RFI are included below.

RFI Section	RFI	Relevance to Chapter
1 (b)	The scientific information provided as part of the planning application documentation should be based on up-to-date survey reports and data. Accordingly, the applicant is requested to confirm/provide justification/verification that the information submitted in support of the planning application remains relevant and appropriate at the point of submitting further information or to update same as required.	The timeframes associated with the RFI have necessitated a review of the datasets previously used in the 2024 EIAR to ensure any necessary updates to the baseline environment are captured. The update to this chapter in relation to this, is provided in Sections 35.2, 35.3, 35.10.
1 (c)	The applicant is requested to confirm whether any on-going or additional surveying has been carried out since the application was lodged and, if so, the applicant is invited to submit any further survey data results and analysis and update the planning application documentation, as appropriate.	Additional bat surveys, including roost surveys at Rockabill Island, marine vessel surveys and headland monitoring, were undertaken in 2024 (Appendix A35.1 Offshore Bat Monitoring Report 2024) and incorporated into this document. The update to this chapter in relation to this, is provided in Sections 35.2, 35.3,
1 (d)	The applicant is requested to provide details of an operational monitoring programme for the proposed development. In this regard, the applicant is advised that the proposed operational monitoring programme should fully inform the requirements of any future decommissioning plan(s) and justify any adaptive mitigation measures required.	In response to this RFI the Developer has prepared an Operational Monitoring Programme which contains the requested information on planned operational monitoring, including timeframes and reporting. The update to this chapter in relation to this, is provided in Section 35.6.

RFI Section	RFI	Relevance to Chapter
	The proposed operational monitoring should be provided at appropriate intervals, for appropriate periods, and provide for adequate reporting to the relevant compliance authorities.	
4	The documentation submitted does not provide specific detail, assessment, or review of the range of ecosystem functions and services which could be impacted by the proposed development. The National Marine Planning Framework (NMPF) states that proposals to protect, maintain, restore, and enhance coastal habitats for ecosystem functioning and provision of ecosystem services will be supported, subject to the outcome of statutory environmental assessment processes. Seafloor and Water Column Integrity Policy 3 of the NMPF also requires proposals to take account of the space required for coastal habitats, for ecosystem functioning and the provision of ecosystem services and to demonstrate that they will, in order of preference, avoid, minimise or mitigate for net loss of coastal habitats. The applicant is requested to update the EIAR to include an assessment of impacts (both positive and negative) on relevant ecosystem functions and services and include mitigation measures, as appropriate. The applicant is also requested to submit a synopsis report of the relevant impacts on ecosystem functions and services. In identifying the relevant ecosystem services for assessment, including those services classified as provisioning, regulation and maintenance, and cultural services, the applicant is advised to consider the full range of ecosystem services set out in the report 'Valuing Ireland's Blue Ecosystem Services' (SEMRU of NUI Galway, 2018), as referenced in the NMPF. The report should also consider the need for an adaptive management framework for ongoing assessment and should include provision for appropriate monitoring of any mitigation measures and operational management strategies, as well as provision for decommissioning.	A synopsis report of ecosystem functions and services has been provided in Appendix A3.3 Ecosystem Functions and Services Assessment, which considers the full range of ecosystem services set out in the report 'Valuing Ireland's Blue Ecosystem Services' (SEMRU of NUI Galway, 2018). The outcome of individual receptor assessments concluded no material impact on ecosystem services, and no impediment to the ability of normal ecosystem functions and services to function, resulting from the proposed development. The Developer has not included a separate assessment in the respective Chapters of the EIAR as the conclusions of the EIAR are already directly linked to the assessment of ecosystem functions and services. This includes assessment of decommissioning impacts, the need for adaptive management, ongoing monitoring and/or other mitigations. The update to this chapter in relation to this, is provided in Section 35.2.
5	The Board notes that cumulative assessment was addressed under each topic specific chapter in the EIAR and addressed within Chapter 38 Cumulative and Interrelated Effects Assessment (CEA) (and associated Appendices 38.1 and 38.2). The Marine Institute in their observation raises concerns in relation to the methodology applied in the submitted cumulative effects assessment and the manner in which the information is presented, noting the lack of a standard Irish methodology in relation to CEA. The applicant is advised that guidance exists in the UK, namely Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment - GOV.UK, September 2024 (NSIP, 2024). The applicant is requested to revise the submitted cumulative assessment in line with NSIP (2024) and submit a standalone document to clearly demonstrate the CEA conclusions. In the interests of consistency and transparency, the applicant is requested to complete the assessment in accordance with the templates provided in the NSIP (2024), namely "Appendix 1: Matrix 1 – Identification of 'other development' for CEA" and "Appendix 2: Matrix 1 – Assessment matrix" (see attached Appendix B).	The cumulative effects assessment has been revised in line with NSIP (2024) and relevant sections of this document have been updated. The update to this chapter in relation to this, is provided in Section 35.9.

RFI Section	RFI	Relevance to Chapter
	This assessment should include each of the Irish Sea Phase 1 ORE Projects, namely (Oriel WF (ABP-319799-24), Arklow WF (ABP-319864-24), Codling Wind Park (ABP-320768-24), and Dublin Array WF (ABP-321992-25), and all other relevant projects in the International Council for the Exploration of the Sea (ICES) Celtic Sea and Greater North Sea ecoregions, regardless of project type. It is further requested that the applicant confirm that the now published documentation pertaining to the Irish Sea Phase 1 ORE projects, which have all been submitted to the Board for planning consent since this application was submitted, have been fully incorporated into the cumulative effects assessment. In accordance with NSIP (2024) tiered approach, it is requested that the subject proposal and each of the Irish Sea Phase 1 ORE projects be classified under Tier 1 ("Other existing and, or approved development submitted applications under the Planning Acts or other regimes but not yet determined"). The applicant is requested to update the application documentation, where relevant. In the interests of comprehensiveness and for ease of reference, the applicant is strongly encouraged to liaise with the other Irish Sea Phase 1 ORE Project applicants in the preparation of the above assessment and drafting of the tables attached in Appendix B.	
15 (a)	The Board notes the observation from the DAU in relation to the assessment of coastal foraging bats. The DAU notes there is some evidence of Leisler's bats throughout the summer and autumn at Rockabill, which is c. 5/6km from the proposed offshore array and therefore the proposed development is within the foraging range of this species. The DAU observations note a potential roost of pipistrelles on Rockabill needs further investigation. The applicant is requested to include the use of the data collected during vessel and headland surveys in 2024, as well as further surveys of the buildings at Rockabill Island to determine if a bat roost is present and address the potential for any interaction between foraging bats on Rockabill and the offshore development area.	The baseline has been updated to include the results of the vessel and headland surveys in 2024, as well as further surveys of the buildings at Rockabill Island (Appendix A35.1 Offshore Bat Monitoring Report 2024). The update to this chapter in relation to this, is provided in Sections 35.2, 35.3, 35.3.
15 (b)	Whilst the applicant has stated that any risk to migrating bats has been ruled out, the DAU notes that data collected by the applicant, particularly in relation to Leisler's bats, provides the strongest indication to date that this species may migrate between the UK and Ireland. The DAU recommend that further data should be acquired or more data analysed to allow further consideration of the implications of the proposed development on offshore bat activity. These analyses should include use of the data collected during vessel and headland surveys in 2024 as well as further surveys of the buildings at Rockabill Island to determine if a bat roost is present and should address the potential for any interaction between bats on Rockabill and the offshore development area. The applicant is requested to respond to the observation made by the DAU and address concerns raised.	The results of the vessel and headland surveys in 2024, as well as further surveys of the buildings at Rockabill Island have been incorporated into Section 35.3.5 of this document, which provides an updated and comprehensive assessment of offshore bat activity and potential migratory movements in response to RFI Section 15 (b). The update to this chapter in relation to this, is provided in Sections 35.2, 35.3, 35.5.
15 (c)	With regard to artificial lighting at night, the applicant is requested to provide a more comprehensive assessment	Sections 35.5.2.3 and 35.5.3.2 of this chapter provide a comprehensive reassessment of Artificial Lighting at Night (ALAN) in response to RFI Section 15(c),

RFI Section	RFI	Relevance to Chapter
	for the effects due to Artificial Lighting at Night (ALAN) and the extent to which it may displace bats. The applicant is requested to provide an assessment (with reference to appropriate lux contours) having regard to the submitted Lighting and Marking Plan to determine the extent to which WTG and OSP lighting may disturb or displace bats.	incorporating the Lighting and Marking Plan (Appendix A17.3) and updated offshore bat survey data. The update to this chapter in relation to this, is provided in Sections 35.5
15 (d)	The applicant is requested to clarify what specifically are the 'optimisation strategies' utilised by bats and how are they relied upon to mitigate risks from the proposed development for bats.	Section 35.5.3.3 of this chapter clarifies the meaning of "optimisation strategies" in response to RFI Section 15 (d). The updated assessment demonstrates that offshore bat activity remains extremely low in the study area, episodic and weather-dependent, and that no attraction or displacement pathway exists that would alter these natural movement behaviours. This document therefore provides a clear explanation of optimisation strategies and confirms that they have not been used to justify or reduce predicted effects. The update to this chapter in relation to this, is provided in Section 35.5.
15 (e)	As indicated within Chapter 35 of the EIAR, some bat species, which are known to have migratory behaviours, have a foraging height of approx. 40m above ground level (as per studies relating to onshore windfarms). The applicant is requested to review the EIAR in the context of the most up-to-date literature available, which claims that certain species regularly fly above 40m. In light of this literature, the application is requested to reconsider the tidal range and its impact on the available gap between the swept area and water level and the factor which flight height plays in the risk to foraging and migratory bats.	The assessment has been comprehensively revised to account for the updated 2024 offshore dataset, the cross-year evidence from 2022–2024 and the wider Phase One Projects' offshore baselines. The update to this chapter in relation to this, is provided in Section 35.5.
15 (f)	The applicant is requested to examine the need for mitigation measures, in addition to monitoring during the operational phase, to reduce potential impacts on bats, and is requested to provide details in relation to potential mitigation measures, for example, including, inter alia, measures such as curtailment or feathering of blades under certain conditions.	Section 35.6 of this chapter has re-evaluated the need for bat-specific mitigation measures in response to RFI Section 15 (f). The update to this chapter in relation to this, is provided in Section 35.6.

35.2 Methodology

35.2.1 Introduction

There are no changes to this section. Refer to Section 35.2.1 of Chapter 35 of the 2024 EIAR.

35.2.2 Study Area and Zone of Influence

There are no changes to this section. Refer to Section 35.2.2 of Chapter 35 of the 2024 EIAR.

35.2.3 Relevant Legislation, Guidance and Policy

The only change to this section, is the addition of text in response to RFI Section 4 that requests that the Developer update the EIAR to include an assessment of impacts (both positive and negative) on ecosystem functions and services. The following text should be added to the end of this section:

Marine ecosystem functions and services are considered within this chapter. The NMPF (2021) sets out the framework and proposed approach to managing Ireland's maritime activities to ensure the sustainable use of marine resources up to 2040.

Environment policies in the NMPF have been split into nine categories largely aligned to the Marine Strategy Framework Directive (MSFD) Good Environmental Status (GES) descriptors as well as addressing air quality and climate change.

In particular, the Seafloor and Water Column Integrity Policy 3 of the NMPF also requires proposals to take account of the space required for coastal habitats, for ecosystem functioning and the provision of ecosystem services and to demonstrate that they will, in order of preference, avoid, minimise or mitigate for net loss of coastal habitats.

The conclusions of this chapter EIAR are directly linked to the assessment of ecosystem functions and services. Refer to Ecosystem Functions and Services Assessment (Appendix A3.3) which provides the link between MSFD, the Overarching Marine Planning Policy (OMPP) and EIAR topics.

There are no other changes to this section. Refer to Section 35.2.3 of Chapter 35 of the 2024 EIAR.

35.2.4 Data Collection and Collation

35.2.4.1 Site-specific Surveys

The changes in this section reflect the surveys undertaken in 2024 as a continuation of the surveys conducted for the proposed development (Appendix A35.1: Bat Monitoring Report 2024). They also address RFI Section 15 (a) and Section 15 (b) in response to the Department of Agriculture, Food and the Marine's (DAU) submission seeking additional bat survey data for Rockabill Island and the headlands.

This section shall be deleted in the 2024 EIAR and replaced with the following:

Rockabill Lighthouse

Following consultation with Commissioners of Irish Lights (CIL), BirdWatch Ireland and NPWS, in February 2022, permission was received to access Rockabill for the purpose of monitoring bat activity. Rockabill is approximately 5km southwest of the array area, and the closest accessible island to the proposed development.

Static detector surveys were undertaken using Wildlife Acoustics full spectrum Song Meter 4s (SM4s) with SMM-U2 ultrasonic microphones. Detectors were deployed on Rockabill, approximately 6km offshore of Skerries, County Dublin. The detectors were powered by external Lithium-ion batteries. The detectors were housed in simple plastic boxes modified to allow for power and microphone cables, to prevent excessive fouling from terns directly onto detectors. Two static detectors were deployed from 19 April 2022 to 25 October 2022, 04 April 2023 to 11 October 2023 and 14 August 2024 to 11 November 2024. One detector was positioned on the eastern side of the island at [53.597212, -6.00454] while the other was placed on the western side [53.597285, -6.004187] (refer to Figure 1 of Appendix A35.1).

The devices were set to start recording 30 minutes pre-sunset to 30 minutes post sunrise in order to capture the period that is likely to have the greatest bat activity, as per Bat surveys for professional ecologists: Good practice guidelines (Collins 2016) for static detector surveys. The surveys are also in line with updated guidance Collins (2023).

The detectors were fitted with two 512GB memory cards each, in anticipation of high levels of noise being recorded because of the island's large breeding tern colony. The detectors were set with 16kHz as the minimum frequency trigger for recording, differing from standard Irish bat survey methodology for which a minimum trigger of 12kHz is used to cover all species present in Ireland. This was done in order the reduce the amount of interfering noise files produced by the large tern colony on the island, while still recording within the normal echolocation frequencies of relevant species. For detector locations refer to Figure 1 of Appendix A35.1.

Roost Surveys

During the 2023 survey it was concluded that there was a potential pipistrelle roost located on the island, based on the proximity of calls detected in relation to sunrise/sunset. A preliminary roost assessment of the external of all the buildings was carried out 14 August 2024.

This assessment comprised a review of all the buildings and other natural features on the island that are accessible and considered their suitability for use by bats. Features such as crevices, voids and entry points were all considered, in addition to the exposed and thermal characteristics of the features, to determine a buildings suitability. The assessment followed the Bat Conservation Trust (BCT) Best Practice Guidelines (Collins, 2023). There are six buildings on the island and all were considered during the assessment.

The roost surveys identified one building (Building One) as having moderate to high potential to support roosting bats as per BCT Collins (2023). However, due to the close proximity of the surrounding buildings, and the requirement for surveyors to remain on the island overnight, efforts were made to maximise survey coverage across as many buildings as possible through strategic positioning of personnel and equipment, enabling wider coverage and to capture any transient use of the island.

The surveys comprised a combination of dusk emergence surveys and dawn re-entry surveys, undertaken by experienced ecologists using hand-held bat detectors and infrared (IR) cameras, in accordance with best practice guidelines (Collins et al., 2023). In total, three paired emergence and re-entry survey events were completed during 2024.

Marine Vessel Survey

Offshore site investigations were carried out within the array area by a marine survey vessel in 2022 and 2024. Two Song Meter Minis (SM-mini) detectors were deployed on the vessels surveying the array area on dates between 31 May 2022 and 11 July 2022 and between 7 and 28 September 2024.

In 2022, one detector was placed on a walkway railing on the centre-front of the boat while the second was placed on a railing at the top of the boat. For detector locations refer to Figure 2 of Appendix 35.1 of the 2024 EIAR. In 2024, one detector was placed on the port and one on the starboard railing. For the 2024 survey, the detector positions were deliberately adjusted to reduce vessel-generated noise, including noise from rigging, metal vibration and airflow around the superstructure. These revised locations increased the physical separation between the detectors and dominant vibration sources, resulting in lower levels of continuous mechanical noise than recorded in 2022. Although seabirds were present offshore, they did not generate the intense, close-proximity noise characteristic of the Rockabill tern colony, where birds frequently perch directly on equipment and create persistent broadband interference. Offshore seabird calls were intermittent and occurred at greater distances from the microphones and therefore did not mask bat calls to the same extent. Given these conditions, and to ensure that low-frequency social calls of Leisler's bat—which can extend to approximately 12 kHz—remained detectable, the minimum trigger frequency of 12 kHz was retained for the vessel-based surveys in both 2022 and 2024. In both cases, the detectors were set to record 30 minutes pre-sunset to 30 minutes post sunrise. The boat continuously travelled at 3 knots while surveying.

Headland Monitoring

Two SM-mini detectors were also strategically deployed along the north Dublin coast to complement the offshore surveys (at Rockabill and the marine survey vessel) to identify any activity peaks that may be associated with bat migration/movement. They recorded from 30 minutes pre-sunset to 30 minutes post-sunrise. Unlike the island-based detectors the minimum triggering frequency was left at 12kHz as large amounts of noise interreference such as that recorded on the island was not present on the headlands. These detectors were deployed between 07-Sep 2022 and 24-Oct 2022 and between 28-Apr 2023 and 08-Nov 2023. One detector was placed on a treeline north of Balbriggan [53.624458, -6.189347] while a second was deployed on the RNLI lifeboat station in Skerries [53.585937, -6.105593] (refer to Figure 35.1 of the 2024 EIAR). In 2024, the detectors were deployed at the sites at Balbriggan and Skerries, with recordings taken between 28 August 2024 and 4 November 2024 and 29 August 2024 and 6 November 2024 respectively.

There are no further changes to this section. Refer to Section 35.2.4.1 of Chapter 35 of the 2024 EIAR.

35.2.4.2 Desk-based Review

Existing ecological records

The changes in this section reflect new data published since the 2024 EIAR.

The following text shall be deleted;

"A search was completed for species records occurring within the study area, using the NBDC website in September 2023."

And replaced with:

A search was completed for species records occurring within the study area, using the NBDC website in September 2023 and December 2025[1].

Literature Review

This chapter update provides an update to the original offshore bat literature review, incorporating new research and data published between 2024 and early 2026. The purpose of this update is to ensure that the assessment draws upon the most current understanding of bat activity in offshore environments, particularly within the Irish Sea, in compliance with RFI Section 1 (b). The original review remains valid and continues to serve as the baseline evidence; however, several recent studies now offer clearer insight into migration timing, offshore behaviour, and potential interaction pathways with offshore wind infrastructure.

There are no further changes to this section. Refer to Section 35.2.4.2 of Chapter 35 of the 2024 EIAR.

35.2.5 Consultation

There are no changes to this section. Refer to Section 35.2.5 of Chapter 35 in the 2024 EIAR.

35.2.6 Data Limitations

The changes in this section reflect the surveys undertaken in 2024 as a continuation of the monitoring conducted for the proposed development (Appendix A35.1: Bat Monitoring Report 2024). They also address RFI Section 15 (a) and Section 15 (b) in response to the Department of Agriculture, Food and the Marine's (DAU) submission seeking additional bat survey data for Rockabill Island and the headlands.

35.2.6.1 Literature review

To reflect updates in literature published since the 2024 EIAR, the following shall be deleted in the 2024 EIAR;

"While there are records of Nathusius' pipistrelle in an Irish/Northern Europe marine environment, there are currently no available public records of Leisler's bat in an Irish/Northern Europe marine environment."

And be replaced with:

While Nathusius' pipistrelle is known to occur in Irish and wider Northern European marine environments, offshore survey data from other Phase One Projects have intermittently recorded Leisler's bat in the Irish Sea. These records demonstrate the species' capability to occur offshore; however, records remain limited and do not provide sufficient information to determine behaviour.

There are no further changes to this section. Refer to Section 35.2.6.1 of Chapter 35 of the 2024 EIAR.

35.2.6.2 Marine Vessel Survey

To reflect the additional survey in 2024, the first paragraph of this section shall be added to with the following additional text:

While 70 calls were recorded during the 2024 survey, there were noise files (albeit at a reduced level based on the new positioning of the detectors). These files were manually reviewed using the same process as the 2022 data analysis.

There are no further changes to this section. Refer to Section 35.2.6.2 of Chapter 35 of the 2024 EIAR.

[1] NBDC maps: https://maps.biodiversityireland.ie/Map

35.2.6.3 Rockabill Lighthouse Monitoring

To reflect the additional survey in 2024 incorporating roost surveys, Section 35.2.6.3 shall be deleted in the 2024 EIAR and replaced with the following:

While no microphones experienced complete failure, the build-up of bird droppings on microphones on Rockabill during the surveys, resulted in the partial loss of microphone sensitivity towards the end of the recording period for some deployments. Despite this partial loss of sensitivity, data were collected for the full duration of the deployment. Therefore, it was considered that data were captured effectively on both detectors for the duration of the surveys and provided an accurate representation of bat activity on Rockabill.

35.2.6.4 Headland Monitoring

To reflect the additional survey in 2024, the following paragraph shall be added to the end of Section 35.2.6.4 of Chapter 35 of the 2024 EIAR:

During the 2024 survey season, the detector at the Balbriggan headland was deployed on 28 August 2024 and collected on 4 November 2024. The detector at the Skerries headland was deployed on 14 August 2024, re-deployed on the 29 August 2024 after the unit failed, and then collected on 6 November 2024. While there is a gap of 15 days for comparative analysis with regards to the Rockabill data, there were only three nights of activity at Rockabill during this period, therefore, the comparative analysis is still valid for the remainder of the survey period.

There are no further changes to this section. Refer to Section 35.2.6.4 of Chapter 35 of the 2024 EIAR.

35.2.6.5 Undertaking baseline survey

There are no changes to this section. Refer to Section 35.2.6.5 of Chapter 35 of the 2024 EIAR.

35.2.7 Methodology for the Assessment of Effects

There are no changes to this section. Refer to Section 35.2.7 of Chapter 35 of the 2024 EIAR.

35.2.7.1 Identifying Ecological Features within the ZoI

There are no changes to this section. Refer to Section 35.2.7.1 of Chapter 35 of the 2024 EIAR.

35.2.7.2 Evaluating Ecological Features within the ZoI

There are no changes to this section. Refer to Section 35.2.7.2 of Chapter 35 of the 2024 EIAR.

35.2.7.3 Identification and characterisation of impacts

There are no changes to this section. Refer to Section 35.2.7.3 of Chapter 35 of the 2024 EIAR.

35.2.7.4 Significant effects on Important Ecological Features

There are no changes to this section. Refer to Section 35.2.7.4 of Chapter 35 of the 2024 EIAR.

35.2.7.5 Assessment of residual effects

There are no changes to this section. Refer to Section 35.2.7.5 of Chapter 35 of the 2024 EIAR.

35.2.7.6 Assessment of cumulative impacts and effects

There are no changes to this section. Refer to Section 35.2.7.6 of Chapter 35 of the 2024 EIAR.

35.3 Baseline Environment

35.3.1 Introduction

There are no changes to this section. Refer to Section 35.3.1 of Chapter 35 of the 2024 EIAR.

35.3.2 Literature review

The original literature review contained in this section of the 2024 EIAR remains valid as the ecological baseline, therefore there are no changes to the Sections 35.3.2.1 to 35.3.2.3 in Chapter 35 of the 2024 EIAR. Refer to Sections 35.3.2.1 to 35.3.2.3 in Chapter 35 of the 2024 EIAR.

However, a new section (Section 35.3.2.4) shall be added to update the offshore bat literature review.

35.3.2.4 Update to Offshore Bat Literature Review

Evidence which has been published since June 2024 refines understanding of when bats may occur offshore, the meteorological conditions that influence their movements, and the nature of interactions that may occur in proximity to offshore wind farm infrastructure.

Across recent UK and European assessments, Nathusius' pipistrelle continues to be the bat species most frequently detected offshore. Peak activity is consistently reported during April–May and August–October, and is strongly associated with warm temperatures, low wind speeds, and supportive tailwind conditions (Hooker et al, 2025a; Bat Conservation Trust, 2025; Amichai et al., 2025). These findings align with broader offshore literature on migratory bat ecology and seasonal movement patterns.

Presence-only datasets from Phase One Projects offshore surveys such as those from the Dublin Array, Codling Wind Park, Oriel Windfarm and Arklow Bank sites confirm that bats can occur in the Irish Sea under suitable weather conditions, with Nathusius' pipistrelle and Leisler's bat recorded (Bray Offshore Wind Limited & Kish Offshore Wind Limited , 2025; Codling Wind Park Ltd., 2024; Oriel Wind Farm Project, 2024 and Arklow Bank Wind Park 2, 2024). However, these Irish Sea datasets provide presence-only information and do not describe offshore behaviour, movement ecology, or flight heights. As a result, the Irish Sea remains data-poor with regard to how high bats fly, how they navigate at sea, or how they respond to offshore meteorological conditions.

To address these evidence gaps, contextual information must be drawn from studies undertaken outside the Irish Sea, particularly from UK–continental Europe migration corridors where detailed telemetry, tracking and modelling work has been completed. Telemetry studies conducted outside the Irish Sea, particularly along UK–continental Europe migration corridors, provide useful contextual evidence. These studies demonstrate that migratory bats adjust movement routes in response to ecological barriers, wind conditions, and energetic constraints (Lagerveld et al., 2024; Vester, 2024; Smeele et al., 2026). Detailed tracking of Nathusius' pipistrelle indicates route flexibility, selection of favourable wind conditions, sex-biased migration timing, and flight heights reaching several hundred metres above sea level under suitable conditions (Christensen & Riis Hansen, 2025).

While these studies do not relate directly to Irish Sea migration routes, they provide comparable data for understanding the potential behaviour of migratory bats, including Nathusius' and Leisler's bats, in offshore Irish environments where species-specific data remain limited (Ahlberg et al., 2025; Spoor, 2025).

While recent North Sea and Baltic studies (Lagerveld et al., 2024; Christensen & Riis Hansen, 2025; Hooker et al., 2025b; Smeele et al., 2026) continue to strengthen understanding of offshore migration elsewhere in Europe, they also confirm that no equivalent telemetry or flight-path mapping studies have yet been undertaken in the Irish Sea. As a result, the Irish Sea remains an evidence gap for route mapping, flight heights and behaviour, despite the expanded Phase One Projects' presence-only datasets now available. This limitation means that Irish assessments must continue to rely on broader European datasets for contextual inference until Irish Sea-specific migration studies become available.

Collision and barotrauma are considered plausible impact pathways for migratory bats during periods of peak offshore activity. Recent behavioural evidence provides additional context. Turbine-mounted thermal imaging systems deployed up to 42km offshore have recorded bats approaching turbine towers and blades, flying within rotor-swept heights, and adjusting flight paths in response to turbine structures (Amichai et al., 2025; Lagerveld et al., 2024; Hooker et al., 2025). These observations indicate active manoeuvring near offshore wind infrastructure with no collisions recorded within the study. However, current offshore monitoring technologies are not capable of reliably detecting rare or transient collision events (Lagerveld et al., 2024; Hooker et al., 2025).

Overall, the updated evidence confirms that bats, including Nathusius' pipistrelle and Leisler's bat, can occur offshore; that active manoeuvring near turbine structures have been observed; and that bats can and do

manoeuvre in proximity to turbines. Some uncertainty remains regarding collision risk and potential population-level effects due to the limited availability of behavioural and mortality data in Irish Sea-specific and European context.

35.3.3 Field survey results 2022

There are no changes to this section. Refer to Section 35.3.3 of Chapter 35 of the 2024 EIAR.

35.3.4 Field survey results 2023

There are no changes to this section. Refer to Section 35.3.4 of Chapter 35 of the 2024 EIAR.

35.3.5 Field survey results 2024

Section 35.3.5 has been added to reflect the surveys undertaken in 2024 as a continuation of the surveying conducted for the proposed development (Appendix A35.1: Bat Monitoring Report 2024). The surveys also address RFI Section 15 (a) and Section 15 (b) in response to the Department of Agriculture, Food and the Marine's (DAU) submission seeking additional bat survey data for Rockabill Island and the headlands.

Section 35.3.5 shall therefore be added to Chapter 35 of the 2024 EIAR along with Sections 35.3.5.1 to 35.3.5.4.

35.3.5.1 Rockabill

Five species were recorded at Rockabill during the 2024 survey period; Leisler's bat (*Nyctalus leisleri*), Nathusius' pipistrelle (*Pipistrellus nathusii*), soprano pipistrelle (*Pipistrellus pygmaeus*), common pipistrelle (*Pipistrellus pipistrellus*) and an unidentifiable Myotis species recording (Myotis sp.), with a total of 1317 recordings. Slightly more passes of bats were recorded at the east detector (684) compared to the west deployment (633), with the only Nathusius' pipistrelle and Myotis species records being recorded by the eastern detector, recorded on the 15 and 28 September 2024.

Leisler's bat activity

Leisler's bat activity was low in August 2024, with peak activity recorded in September 2024 and only a single pass in October 2024. Activity was recorded on just over a quarter of the deployment days.

The highest peak in Leisler's bat activity occurred between 13 September 2024 and 15 September 2024, with 296, 250 and 180 passes recorded on the three nights respectively. There was also a peak in activity on the 31 August 2024 to 02 September 2024, with 50, 101 and 95 passes recorded during that time. This partly mirrors what was observed with the 2022 and 2023 monitoring surveys in terms of the timing of peak activity. However, it should be noted that the findings within 2024 represent a significantly higher fluctuation in passes recorded as a peak for this species in 2024 (296 passes) compared to 2023 (38 passes) and slightly lower than in 2022 but with generally higher peaks overall. In 2022 the highest peak was 310 passes in one night, second highest peak being 75 passes. Comparatively, 2024 has 5 nights where over 100 passes were recorded.

Within September the dates with highest activity associated with possible emergence were 7, 13, 14 and 15 September 2024. The activity per minute shows an average of 6-10 passes per minute during the hour of 20:00. This suggests that there are a small number of individuals (between one and ten), rather than large numbers of the species, within a roost on site and that these individuals forage around the island before leaving. This is further supported by the passes per second for days of highest activity associated with possible emergence.

Leisler's activity primarily coincided with south westerly winds; a trend heavily driven by the activity peak on 13 to 15 September 2024 which had an average south-westerly wind speed of 8.27m/s (M2 weather buoy). The three most frequently observed offshore wind directions which recorded Leisler's bat activity on the island were south-westerly, northerly and easterly winds. These conditions were present for 78.02% of recorded passes. Of the 21.98% of records made with other wind directions, south-easterly had the lowest recorded levels of activity with only 1.99% of Leisler's recorded during that wind direction.

Whilst the highest number of Leisler's passes were recorded during light winds, with 45.33% of passes recorded at wind speeds between 1-4 m/s (M2 weather buoy), similar in comparison to that recorded in the 2023 monitoring period (56.16% between 1-4 m/s (M2 weather buoy)), with 90% of passes recorded at wind speeds of less than 7 m/s and the 2022 monitoring period (80.89% between 1-4 m/s (M2 weather buoy), and with 99.18% of passes recorded at wind speeds of less than 7 m/s. The passes recorded at higher wind speeds in 2024 is disproportionate to that recorded in 2023 and 2022 as only 10% and 0.19% (1 pass) of Leisler's activity was above 7m/s respectively. The wind direction of higher wind speeds is still in line with the direction at lower wind speeds with more than 95% of wind speeds more than 7m/s in south westerly direction. There were no passes recorded in 2024 when there was no or barely any wind present (less than 1m/s).

Pipistrelle activity

Nathusius' pipistrelle activity was recorded on one occasion (15 September 2024), which consisted of a single pass on the eastern detector at 23:03:45, making the pass approximately 3 hours and 30 minutes after sunset. The wind direction recorded at the time was south-westerly, and 2.17m/s.

This level of activity is at a similar level to that recorded in the 2023 monitoring period (2 passes, over 2 days) and reduced from the number of passes recorded during the 2022 monitoring period (12 passes, over 3 days).

There was a total of four passes of common pipistrelle recorded during the deployment, on the 19 August, 3 September and 15 September 2024. There were two passes recorded in the early hours of the 19 August 2024, first at the east detector, followed by four minutes later at the west detector. The times of the calls ranged between 22:15pm on the 15 September 2024, to 04:02am on the 3 September 2024, making these passes approximately 2 hours 45 minutes after sunset, and 2 hours 30 minutes before sunrise respectively. All passes recorded were during south-westerly or westerly winds, with wind speed ranging between 1.05 to 4.57m/s.

There was a total of five passes of soprano pipistrelle recorded during the deployment, all on either the 15 August 2024 (one pass), or 15 September 2024 (four passes). Three passes were recorded on the west detector, and two on the east, with the pass on the 15 August 2024 recorded at 22:30pm approximately 90 minutes after sunset, and the passes on the 15 September 2024 recorded between 22:26 and 23:07pm, being approximately 3 hours to 3 hours 30 mins after sunset. All passes recorded were during westerly or south-westerly winds, with wind speed ranging from 2.17 to 2.99m/s.

This is a significantly reduced level of activity in comparison to that recorded in the same 2023 monitoring period (1084 passes total for common pipistrelle and 1610 passes total for soprano pipistrelle), and more in line with the results of 2022. Therefore, the suggested swarming event of 2023 is considered likely an isolated occasion.

The updated results from 2024 confirm that the assumed roost identified during the 2023 monitoring was not used by common or soprano pipistrelles in 2024. This strengthens the conclusion that the site does not function as a consistent annual roost but rather may be used intermittently or opportunistically depending on environmental or behavioural factors.

Myotis activity

There was a single Myotis sp. pass during the deployment, on the 28 September 2024. The pass was recorded at 01:02am. The pass was recorded during north-westerly winds with a speed of 9.02m/s. This was the first occasion that a Myotis sp. pass has been recorded during all years of monitoring.

35.3.5.2 Marine Vessel Survey

The detectors deployed on the marine survey vessel recorded high levels of background noise, however, unlike the 2022 survey, a total of 70 bat passes were recorded during the period the vessel was at sea. These comprised detections of Leisler's bat (20 passes recorded across five separate days), soprano pipistrelle (49 passes recorded on 8 September 2024) and Nathusius' pipistrelle (one pass recorded on 28 September 2024). Although 70 passes were recorded, they are spatially clustered; therefore, for presentation purposes, they have been grouped into 10 representative locations.

The dates on which Leisler's bat activity was recorded within the array area broadly align with periods during which Leisler's bat passes were also recorded at Rockabill. Based on the timing and sequencing of detections within the array area, the passes can be defined as eight Leisler's bat pass events. The events occurred on 7 September 2024 (three pass events), 8 September 2024 (two pass events), 15 September 2024 (one pass event), 16 September 2024 (one pass event) and 19 September 2024 (one pass event).

For several of these pass events, passes were recorded within seconds of one another on multiple detectors, which is consistent with repeated localised movement and potential circling behaviour, rather than isolated linear transit. Detections recorded within seconds on more than one detector indicate that these records are unlikely from vessel movement or isolated distant transits. On this basis, it is considered reasonable to infer that these pass events represent repeated use of the airspace by individuals.

However, acoustic data do not allow individual bats to be conclusively distinguished, and while repeated detections may reflect the same bat remaining within the area, the precise number of individual Leisler's bats present cannot be confirmed.

Wind data recorded from the survey vessel during periods of Leisler's bat activity indicate that passes occurred across a range of wind speeds, with activity broadly evenly distributed between 1–4 m/s, 4–7 m/s and more than 7 m/s. Wind direction associated with Leisler's bat detections was predominantly north-easterly, accounting for approximately 60% of recorded activity, although the limited dataset does not allow any behavioural preference to be inferred.

All soprano pipistrelle detections were recorded on 8 September 2024, with one pass event of 47 passes occurring within a 1 hour and 1 minute period between 00:54 and 01:55, and an additional pass event of two passes at 04:18. The concentration of activity within a relatively short time window indicates repeated bat activity in the vicinity of the survey vessel, which may represent one or more bats present around the vessel during this period. However, as with Leisler's bat, individual bats cannot be distinguished from acoustic data alone, and no inference regarding the number of individual bats present can be confidently made.

Wind data associated with soprano pipistrelle activity indicate that all passes within the main activity window occurred during wind speeds of 1–4 m/s, with wind directions ranging from northerly to north-easterly. These observations are descriptive only and do not allow inference of behavioural responses to prevailing wind conditions.

For both the M2 weather buoy and the survey vessel, there are periods where wind data correspond closely and periods where discrepancies occur. Where wind direction recorded by both sources aligns, differences in wind speed are negligible, with vessel-recorded wind speeds showing a slight positive bias for soprano pipistrelle detections (approximately +1.4 m/s) and near-zero difference for Leisler's bat detections. Where wind direction does not align, differences in wind speed are more pronounced, particularly for Leisler's bat detections (approximately 3.5 m/s) and the single Nathusius' pipistrelle detection (approximately 2.1 m/s), with vessel-recorded wind speeds consistently higher.

A similar pattern is evident for wind direction. Where wind direction recorded by the vessel and the M2 buoy coincides, variation is minimal. However, non-matching cases show substantial divergence, exceeding 90° for Leisler's bat detections and approximately 120° for the single Nathusius' pipistrelle detection. These patterns indicate that while non-matching conditions are characterised by greater variability in both wind speed and direction, matching conditions demonstrate strong consistency between datasets. No ecological or behavioural inference is drawn from these differences

35.3.5.3 Headland Monitoring

Leisler's bat activity

Leisler's bat passes were recorded at both headland detector locations, with a total of 1065 passes at the Balbriggan location, and 41 passes at the Skerries location. Activity levels at both headland locations were lower than those recorded at Rockabill. However, the Balbriggan data show a broadly similar pattern of activity over time when compared with Rockabill. At both locations, activity increased towards the end of August 2024 and peaked on 1 September 2024, when approximately 100 pass events were recorded at Balbriggan. A further increase in activity was recorded in mid-September, occurring at a similar time to increased activity at Rockabill. While overall activity levels differ between the sites, the timing of daily

peaks and troughs shows a broadly comparable pattern, noting that this does not indicate a direct link between locations.

Leisler's bat activity at the headland locations most frequently coincided with westerly winds, which accounted for 38.5% of recorded passes, based on Dublin Airport Weather Data. The most common wind directions during periods of activity were westerly and north-westerly. However, activity was recorded under a range of wind directions, with passes spread across northerly, southerly, easterly and westerly conditions.

Wind speeds associated with Leisler's bat activity at the headland locations were generally lower than those recorded offshore. Based on Dublin Airport Weather Data, 96.35% of passes occurred at wind speeds of less than 7 m/s, with most of the activity (68.33%) recorded at wind speeds between 1 and 4 m/s.

Nathusius' pipistrelle activity

There were five Nathusius' pipistrelle passes recorded on the Balbriggan headland detector and none recorded at the Skerries. Nathusius' pipistrelle was recorded on the 19 September 2024 and 22 October 2024 at the Balbriggan detector, which does not align with Nathusius' pipistrelle activity at Rockabill, and therefore comparison between locations cannot be established.

As there were insufficient passes to establish a connection between wind speed and Nathusius' pipistrelle passes, the data for all pipistrelle species passes were compared. 52.47% of all pipistrelles passes occurred in westerly wind directions and 91.34% of all passes occurred at wind speeds of 1-4m/s.

Common and soprano pipistrelle activity

There were 6037 common pipistrelle passes recorded at the Balbriggan headland detector and 68 at the Skerries detector. Both are significantly higher than the numbers recorded at Rockabill. All activity for common pipistrelle occurred in winds 1-4m/s and 60% in a westerly direction.

There were 1870 soprano pipistrelle passes recorded at the Balbriggan headland detector and 16 at the Skerries detector. Both are significantly higher than the numbers recorded at Rockabill. 89% of all activity for soprano pipistrelle occurred in winds 1-4m/s and 50% in a westerly or south-westerly direction.

Myotis species activity

There was a total of seven passes recorded at the Balbriggan headland detector and none at the Skerries detector. None of the passes were recorded on the same day as the pass on Rockabill.

35.3.5.4 Roost Survey

Following the preliminary roost assessment of the six buildings on Rockabill, Building One was identified as requiring further survey effort, in line with the recommendations set out in Collins (2023). Three dusk emergence and dawn re-entry surveys were subsequently undertaken on Building One. All roost surveys were undertaken during the autumn survey period. While standard guidance generally recommends that emergence and re-entry surveys are undertaken over three seasons, the timing of surveys for this site was deliberately targeted to the autumn migration window. This approach was adopted to establish whether the building is used by bats during autumn movement periods, particularly as a potential stopover or transitional roost, rather than to determine maternity roost status. The survey effort was therefore considered appropriate for identifying the presence or absence of roost use during the period most relevant to the assessment.

During the emergence and re-entry surveys, Leisler's bat was the only species recorded. This included a likely emergence of a single bat from Building One on 12 September 2024 at 20:19. In total, four Leisler's bat passes were recorded during the roost surveys, all on 12 September 2024. Only one bat was observed potentially emerging from the building, and no further emergence or re-entry behaviour was recorded during subsequent survey visits.

On the basis of these results, it is considered likely that the feature within Building One is used as a day roost by Leisler's bat. Taking account of the limited level of activity recorded during the roost surveys, together with the results of static detector surveys undertaken across multiple years, the roost is most likely used on a temporary basis, consistent with a transitional or stopover roost used by a small number of Leisler's bats (anticipated to be within 1-10) during the autumn migration period.

No pipistrelle species were recorded on the island during the 2024 surveys, in contrast to activity recorded during the 2023 monitoring. In the context of the roost survey results, this indicates that the assumed pipistrelle roost identified in 2023 was not in use in 2024. This supports the conclusion that the site does not function as a consistently used annual roost but is instead likely to be used intermittently or opportunistically, potentially in response to changing environmental conditions or seasonal movement patterns.

35.3.6 Cross-Year Summary (2022–2024)

Section 35.3.6 has been added to reflect the surveys undertaken in 2024 as a continuation of the surveying conducted for the proposed development (Appendix A35.1: Bat Monitoring Report 2024). The surveys also address RFI Section 15 (a) and Section 15 (b) in response to the Department of Agriculture, Food and the Marine's (DAU) submission seeking additional bat survey data for Rockabill Island and the headlands.

Section 35.3.6 shall therefore be added to Chapter 35 of the 2024 EIAR.

Across the three survey seasons (2022–2024), using consistent detector locations at Rockabill Island and the coastal headlands; and the inclusion of the offshore survey vessel survey data, the combined dataset shows that bat activity within and around the array area is consistently low, intermittent, and best interpreted as an index of occasional presence rather than any measure of abundance. Rockabill detections were dominated by Leisler's bat, with short-lived peaks varying between years: a single-night peak of 310 passes in 2022; several higher-activity nights during 13–15 September 2024 (296, 250 and 180 passes); and substantially lower levels throughout 2023. The brief pipistrelle spike recorded in 2023 did not recur in 2024 and is viewed as an isolated event rather than an indication of sustained activity. This pattern of low, sporadic offshore activity is consistent with other Phase One Projects' survey results in Irish waters (Oriel Wind Park, 2024 and Arklow Bank Wind Park 2, 2024), which also report generally low activity dominated by Leisler's bat with occasional pipistrelle detections.

Roost inspections in 2024 confirmed a small, temporary day roost of Leisler's bat in Building One on Rockabill, while the pipistrelle roost inferred in 2023 was not confirmed the following year. Differences between seasons are most likely driven by short-term movements and weather conditions during survey periods rather than representing any wider trend in area use. Because the dataset is acoustic and parts of the analysis rely on proxy weather information, no behavioural interpretations, such as movement routes, flight heights or attraction/avoidance responses, are drawn.

Overall, the updated analysis provides a clearer and more dependable picture of bat activity across the three seasons, ensuring that the subsequent assessment is based on the most accurate dataset available.

35.3.7 Desk Study Results

35.3.7.1 Existing ecological records

This section reflects the update in records obtained from the NBDC database. Table 35.3 in the 2024 EIAR shall be deleted and replaced with Table A35.1.

Table A35.1 Bat species records from NBDC for the 10km grid squares O16, O17, O18, O25, O26, O27, O28, O35, O36, O37 and O38 (replaces Table 35.3 of the 2024 EIAR)

	Common Pipistrelle	Soprano pipistrelle	Nathusius' pipistrelle	Leisler's bat	Brown long-eared bat	Daubenton's bat	Whiskered bat	Natterer's bat
O16	✓	✓	✓	✓	✓	✓	✓	
O17	✓	✓		✓	✓	✓		✓
O18	✓	✓		✓	✓			
O25	✓	✓	✓	✓	✓	✓		
O26	✓	✓		✓	✓			
O27								
O28								

	Common Pipistrelle	Soprano pipistrelle	Nathusius' pipistrelle	Leisler's bat	Brown long-eared bat	Daubenton's bat	Whiskered bat	Natterer's bat
O35					✓			
O36								
O37								
O38								

There are no further changes to this section. Refer to Section 35.3.5.1 of Chapter 35 of the 2024 EIAR.

35.3.7.2 Coastal Habitats

There are no changes to this section. Refer to Section 35.3.5.2 of Chapter 35 of the 2024 EIAR.

35.3.7.3 Records of Roosts

The only change to this section is the update to a Figure due to a review of baseline data in Section 35.2.4.2. The following figure number should be deleted:

Figure 35.2

And replaced with:

Figure A35.1

There are no further changes to this section. Refer to Section 35.3.5.3 of Chapter 35 of the 2024 EIAR.

35.3.7.4 Offshore Habitats

There are no changes to this section. Refer to Section 35.3.5.4 of Chapter 35 of the 2024 EIAR.

35.3.8 Summary of Important Ecological Features

There are no changes to this section. Refer to Section 35.3.6 of Chapter 35 of the 2024 EIAR.

35.3.9 Potential interactions of offshore bats with wind developments

The only change to this section is the inclusion of acknowledgment with regards to the updated literature review (Section 35.3.3.2). The following paragraph Section 35.3.7 of the 2024 EIAR shall be deleted:

"While there is evidence of bat mortality at turbines for onshore bats, information on interactions between bats and offshore WTG is almost completely lacking. Although studies have been carried out at offshore WTG locations including Ahlén et al., (2007) which involved monitoring of bat behaviour around offshore wind farms in the Baltic and Kattegat, where bats were observed foraging near the turbines, no mention is made of observed collisions between bats and offshore WTGs."

And be replaced with:

While there is evidence of bat mortality at turbines for onshore bats, information on interactions between bats and offshore WTG is almost completely lacking. Although studies have been carried out at offshore WTG locations including Ahlén et al., (2007) which involved monitoring of bat behaviour around offshore wind farms in the Baltic and Kattegat, where bats were observed foraging near the turbines, no mention is made of observed collisions between bats and offshore WTGs. Recent offshore monitoring studies refine understanding of offshore bat occurrence and behaviour, including manoeuvring in proximity to turbine structures (Amichai et al., 2025; Hooker et al., 2025). However, uncertainty regarding collision risk remains due to limitations in detecting rare or transient collision events offshore (Lagerveld et al., 2024; Hooker et al., 2025).

There are no further changes to this section. Refer to Section 35.3.7 of Chapter 35 of the 2024 EIAR.

35.4 Characteristics of the Proposed Development

The only change required to this section is the refinement of the foundation types for Project Option 1 and Project Option 2 from monopiles and jackets with pin piles to suction bucket jackets (SBJs). Therefore, the only change in this section is to Table 35.6 from Chapter 35 of the 2024 EIAR, as indicated by the grey shading. For the purposes of clarity, Table 35.6 of Chapter 35 of the 2024 EIAR shall be replaced with Table A35.2 below.

Table A35.2 Key characteristics of Project Option 1 and Project Option 2 (replaces Table 35.6 of Chapter 35 of the 2024 EIAR)

Key Offshore Characteristics	Project Option 1	Project Option 2
Array area	88.5km^2	88.5km^2
ECC	36.45km^2	36.45km^2
Landfall	One landfall site, immediately south of Bremore Point, which includes two subtidal exit pits within the ECC	One landfall site, immediately south of Bremore Point, which includes two subtidal exit pits within the ECC
Wind Turbine Generator (WTG)	49 WTGs with 250m rotor diameter	35 WTGs with 276m rotor diameter
WTG Foundations	49 multi-leg suction bucket jackets (SBJs)	35 SBJs
WTG dimensions	Hub height of 165m (LAT) Blade tip height of 290m (LAT) Blade tip clearance (height of rotor tip above LAT) of 40m	Hub height of 178m (LAT) Blade tip height of 316m* or 311m** (LAT) Blade tip clearance (height of rotor tip above LAT) of 40m* or 35m**
Offshore Substation Platform (OSP) foundations (array area)	One OSP supported on a multi-leg jacket foundation founded on pin piles or SBJs	One OSP supported on a multi-leg jacket foundation founded on pin piles or SBJs
Cables	Installation of 111km of array cables within the array area and installation of two 18km export cables within the ECC	Installation of 91km of array cables within the array area and installation of two 18km export cables within the ECC

*When located outside the aviation restricted zone

**When located inside the aviation restricted zone

There are no further changes to this section. Refer to 35.4 of Chapter 35 of the 2024 EIAR.

35.4.1 Parameters for assessment

There are no changes to this section. Refer to Section 35.4.1 of Chapter 35 of the 2024 EIAR.

35.4.1.1 Construction

There are no changes to this section. Refer to Section 35.4.1.1 of Chapter 35 of the 2024 EIAR.

35.4.1.2 Operational Phase

There are no changes to this section. Refer to Section 35.4.1.2 of Chapter 35 of the 2024 EIAR.

35.4.1.3 Decommissioning

There are no changes to this section. Refer to Section 35.4.1.3 of Chapter 35 of the 2024 EIAR.

35.4.2 Embedded Mitigation Measures

There are no changes to this section. Refer to Section 35.4.2 of Chapter 35 of the 2024 EIAR.

35.4.3 Potential Impacts

The changes required to this section are due to the change of foundation type from monopiles and jackets with pin piles to SBJs. Therefore, the only change in this section is to Table 35.7 Potential impact and magnitude of impact per project option from Chapter 35 of the 2024 EIAR, as indicated by the grey shading on text and within table cells. For the purposes of clarity, Table 35.7 of Chapter 35 of the 2024 EIAR shall be replaced with Table A 35.3 below.

Table A35.3 Potential impacts and magnitude of impact per project option (replaces Table 35.7 in Chapter 35 of the 2024 EIAR) The project option that has the greatest likely significant effect is identified in blue

Potential impact	Project Option 1 (49 WTG)	Project Option 2 (35 WTG)	Rationale for the project option with the greatest likely significant effect
Construction			
Impact 1 – Displacement and disturbance from noise during construction	**WTG infrastructure presence:** Installation of 49 WTGs and foundations. **OSP infrastructure presence:** Installation of 1 OSP and foundation. **Total number of construction vessels:** 70 **Total number of construction vessel return trips:** 3,032 **Maximum vessels simultaneously onsite during construction:** 50 **Total number of helicopter return trips during WTG installation:** 10	**WTG infrastructure presence:** Installation of 35 WTGs and foundations. **OSP infrastructure presence:** Installation of 1 OSP and foundation. **Total number of construction vessels:** 70 **Total number of construction vessel return trips:** 2,504 **Maximum vessels simultaneously onsite during construction:** 47 **Total number of helicopter return trips during WTG installation:** 7	**Project 1 represents the greatest magnitude of impact in relation to this impact.** The greatest likely significant effect for noise results from the greatest vessel movements during construction. Project Option 1 has a greater number of structures and vessels trips than Project Option 2.
Impact 2 – Displacement and disturbance due to increased vessel activity and infrastructure presence	**WTG infrastructure presence:** Installation of 49 WTGs. **OSP infrastructure presence:** Installation of 1 OSP. **Total number of construction vessels:** 70 **Total number of construction vessel return trips:** 3,032 **Maximum vessels simultaneously onsite during construction:** 50	**WTG infrastructure presence:** Installation of 35 WTGs. **OSP infrastructure presence:** Installation of 1 OSP. **Total number of construction vessels:** 70 **Total number of construction vessel return trips:** 2,504 **Maximum vessels simultaneously onsite during construction:** 47	**Project 1 represents the greatest magnitude of impact in relation to this impact.** The greatest likely significant effect for increased vessel activity and infrastructure presence results from the project option with the most vessels and infrastructure during construction. Project Option 1 has a greater number of WTGs, and therefore has more overall infrastructure than Project Option 2.
Impact 3 – Displacement and disturbance due to artificial lighting at night (ALAN)	**WTG infrastructure presence:** Installation of 49 WTGs. **OSP infrastructure presence:** Installation of 1 OSP. **Maximum vessels simultaneously onsite during construction:** 50	**WTG infrastructure presence:** Installation of 35 WTGs. **OSP infrastructure presence:** Installation of 1 OSP. **Maximum vessels simultaneously onsite during construction:** 47	**Project 1 represents the greatest magnitude of impact in relation to this impact.** The greatest likely significant effect for disturbance and displacement due to ALAN results from the project option with the most vessels present and

Potential impact	Project Option 1 (49 WTG)	Project Option 2 (35 WTG)	Rationale for the project option with the greatest likely significant effect
	Total number of construction vessels: 70 **Total number of construction vessel return trips:** 3,032 **Lighting** All structures will be illuminated with temporary lighting with a range of at least 2 nautical miles (nm) up until the commissioning of the operational lighting. Construction buoys will also be deployed within the development area with a range of at least 5nm.	**Total number of construction vessels:** 70 **Total number of construction vessel return trips**: 2,504 **Lighting** All structures will be illuminated with temporary lighting with a range of at least 2 nautical miles (nm) up until the commissioning of the operational lighting. Construction buoys will also be deployed within the development area with a range of at least 5nm.	infrastructure during construction and therefore greater illuminated areas. Project Option 1 has a greater number of WTGs and therefore has more overall infrastructure than Project Option 2.
Impact 4 – Indirect displacement and disturbance resulting from changes to prey	**WTG infrastructure presence:** Installation of 49 WTGs. **OSP infrastructure presence:** Installation of 1 OSP. **Total number of construction vessels:** 70 **Total number of construction vessel return trips:** 3,032 **Maximum vessels simultaneously onsite during construction:** 50	WTG infrastructure presence: Installation of 35 WTGs. OSP infrastructure presence: Installation of 1 OSP. Total number of construction vessels: 70 Total number of construction vessel return trips: 2,504 Maximum vessels simultaneously onsite during construction: 47	**Project 1 represents the greatest magnitude of impact in relation to this impact.** The greatest likely significant effect for indirect impacts via prey distribution results from the project option with the most infrastructure and lighting during construction. Project Option 1 has a greater number of WTGs and therefore has more overall infrastructure than Project Option 2.
Operation			
Impact 5 – Displacement and disturbance due to increased vessel activity and infrastructure presence	**Number of operational WTGs:** 49 WTGs. **OSP infrastructure presence:** 1 OSP. **Rotor rotational speed:** 3 – 8.3 rotations per minute (rpm). **Total number of operation vessels:** 12. **Total number of operation vessel return trips annually:** 1,261; and **Maximum vessels simultaneously onsite during operation:** 12.	**Number of operational WTGs:** 35 WTGs. **OSP infrastructure presence:** Presence of 1 OSP. **Rotor rotational speed:** 3 – 7.5rpm. **Total number of operation vessels:** 12. **Total number of operation vessel return trips annually:** 1,055; and **Maximum vessels simultaneously onsite during operation:** 12.	**Project 1 represents the greatest magnitude of impact in relation to this impact.** The greatest likely significant effect for impact on movement results from Project Option 1 due to the higher increase in presence of infrastructure. Project Option 1 has a greater number of WTGs and therefore has more overall infrastructure than Project Option 2.
Impact 6 – Displacement and disturbance due to ALAN	**WTG infrastructure presence:** 49 WTGs. **OSP infrastructure presence:** 1 OSP. **Total number of operation vessels:**	**WTG infrastructure presence:** 35 WTGs. **OSP infrastructure presence:** 1 OSP.	**Project 1 represents the greatest magnitude of impact in relation to this impact.**

Potential impact	Project Option 1 (49 WTG)	Project Option 2 (35 WTG)	Rationale for the project option with the greatest likely significant effect
	12. **Total number of operation vessel return trips annually:** 1,261 **Maximum vessels simultaneously onsite during operation:** 12. **Lighting** Selected peripheral structures (SPS) visible from at least 5nm. Non-SPS visible from at least 2nm.	**Total number of operation vessels:** 12. **Total number of operation vessel return trips annually:** 1,055. **Maximum vessels simultaneously onsite during operation:** 12. **Lighting** Selected peripheral structures (SPS) visible from at least 5nm. Non-SPS visible from at least 2nm.	The greatest likely significant effect for artificial lighting at night results from the project option with the greatest infrastructure, and therefore illuminated areas. Project Option 1 has a greater number of WTGs and therefore has more overall infrastructure than Project Option 2.
Impact 7 – Indirect displacement and disturbance resulting from changes to prey	**WTG infrastructure presence:** 49 WTGs. **OSP infrastructure presence:** 1 OSP. **Total number of operation vessels:** 12 **Total number of operation vessel return trips annually:** 1,261 **Maximum vessels simultaneously onsite during operation:** 12 **Lighting** Selected peripheral structures (SPS) visible from at least 5nm. Non-SPS visible from at least 2nm.	**WTG infrastructure presence:** 35 WTGs. **OSP infrastructure presence:** 1 OSP. **Total number of operation vessels:** 12 **Total number of operation vessel return trips annually:** 1,055 **Maximum vessels simultaneously onsite during operation:** 12 **Lighting** Selected peripheral structures (SPS) visible from at least 5nm. Non-SPS visible from at least 2nm.	**Project 1 represents the greatest magnitude of impact in relation to this impact.** The greatest likely significant effect for artificial lighting at night results from the project option with the greatest infrastructure, and therefore illuminated areas. Project Option 1 has a greater number of WTGs and therefore has more overall infrastructure than Project Option 2.
Impact 8 - Collision and barotrauma	**Number of operational WTGs:** 49 WTGs. **OSP infrastructure presence:** 1 OSP. **Lower blade tip height:** 40m above LAT. **Upper blade tip height:** 290m above LAT. **Minimum rotation speed:** 3 rotations per minute (rpm). **Maximum rotation speed:** 8.3rpm.	**Number of operational WTGs:** 35 WTGs. **OSP infrastructure presence:** 1 OSP. **Lower blade tip height:** 40m* or 35m** above LAT. **Upper blade tip height:** 316* or 311** above LAT. **Minimum rotation speed:** 3rpm. **Maximum rotation speed:** 7.5rpm.	**Project 1 represents the greatest magnitude of impact in relation to this impact.** Whilst the greatest blade tip length has the potential to cause likely significant effects, both options have a lower blade tip of 40m above LAT (35m when located inside the aviation restricted zone for Option 2) and the upper blade tip height is not significant between the two options, therefore, the greatest likely significant effect for collision and barotrauma results from Project Option 1 due to the highest increase in presence of infrastructure.

Potential impact	Project Option 1 (49 WTG)	Project Option 2 (35 WTG)	Rationale for the project option with the greatest likely significant effect
			Project Option 1 has a greater number of WTGs and therefore has more overall infrastructure than Project Option 2.
Decommissioning			
Impact 9 – Displacement and disturbance due to noise	**WTG infrastructure presence:** Removal of 49 WTGs. **OSP infrastructure presence:** Removal of 1 OSP.	**WTG infrastructure presence:** Removal of 35 WTGs. **OSP infrastructure presence:** Removal of 1 OSP.	**Project 1 represents the greatest magnitude of impact in relation to this impact.** The greatest likely significant effect for noise results from the removal of the largest number of WTG and OSP structures and vessel movements during decommissioning. Project Option 1 has a greater number of structures, and therefore greater overall construction duration than Project Option 2.
Impact 10 - Displacement and disturbance due to increased vessel activity and infrastructure presence	**WTG infrastructure presence:** Removal of 49 WTGs. **OSP infrastructure presence:** Removal of 1 OSP. **Based on Construction:** **Total number of construction vessels:** 70 **Total number of construction vessel return trips:** 3,032 **Maximum vessels simultaneously onsite during construction:** 50 **Total number of helicopter return trips during WTG installation:** 10	**WTG infrastructure presence:** Removal of 35 WTGs. **OSP infrastructure presence:** Removal of 1 OSP. **Based on Construction:** **Total number of construction vessels:** 70 **Total number of construction vessel return trips:** 2,504 **Maximum vessels simultaneously onsite during construction:** 47	**Project 1 represents the greatest magnitude of impact in relation to this impact.** The greatest likely significant effect for increased vessel activity and infrastructure presence results from the project option with the most vessels and infrastructure during decommissioning. Project Option 1 has a greater number of WTGs, and therefore has more overall infrastructure than Project Option 2.

Potential impact	Project Option 1 (49 WTG)	Project Option 2 (35 WTG)	Rationale for the project option with the greatest likely significant effect
Impact 11 - Displacement and disturbance due ALAN	**Lighting** All structures will be illuminated with temporary lighting with a range of at least 2nm up until the commissioning of the operational lighting. Construction buoys will also be deployed within the decommissioning area with a range of at least 5nm.	**Lighting** All structures will be illuminated with temporary lighting with a range of at least 2nm up until the commissioning of the operational lighting. Construction buoys will also be deployed within the decommissioning area with a range of at least 5nm.	**Project 1 represents the greatest magnitude of impact in relation to this impact.** The greatest likely significant effect for disturbance and displacement due to ALAN results from the project option with the most vessels present and infrastructure during decommissioning and therefore greater illuminated areas. Project Option 1 has a greater number of WTGs and therefore has more overall infrastructure than Project Option 2.
Impact 12 – Indirect displacement and disturbance resulting from changes to prey	**WTG infrastructure presence:** Removal of 49 WTGs. **OSP infrastructure presence:** Removal of 1 OSP. **Lighting** All structures will be illuminated with temporary lighting with a range of at least 2nm up until the commissioning of the operational lighting. Construction buoys will also be deployed within the decommissioning area with a range of at least 5nm.	**WTG infrastructure presence:** Removal of 35 WTGs. **OSP infrastructure presence:** Removal of 1 OSP. **Lighting** All structures will be illuminated with temporary lighting with a range of at least 2nm up until the commissioning of the operational lighting. Construction buoys will also be deployed within the decommissioning area with a range of at least 5nm.	**Project 1 represents the greatest magnitude of impact in relation to this impact.** The greatest likely significant effect for indirect impacts via prey distribution results from the project option with the most infrastructure and lighting during decommissioning. Project Option 1 has a greater number of WTGs and therefore has more overall infrastructure than Project Option 2.

*When located outside the aviation restricted zone

**When located inside the aviation restricted zone

An aviation restricted zone has been identified by the Developer due to the partial overlap of the array area with a Dublin Airport Instrument Flight Procedure. This is further detailed in Chapter 19: Aviation and Radar.

There are no other changes to this section. Refer to 35.4.3 of Chapter 35 of the 2024 EIAR.

35.5 Potential Effects

There are no changes to the introductory text of this section. Refer to 35.5 of Chapter 35 of the 2024 EIAR.

35.5.1 Do-Nothing Scenario

There are no changes to this section. Refer to 35.5.1 of Chapter 35 of the 2024 EIAR.

35.5.2 Construction Phase

There are no changes to the introductory text of this section. Refer to 35.5.2 of Chapter 35 of the 2024 EIAR.

35.5.2.1 Impact 1 - Displacement and disturbance due to noise during construction

On foot of the submissions, continued public consultation and the RFI, clarifications and design refinements, the refinement of the foundation types for Project Option 1 and Project Option 2 WTGs from monopiles and jackets with pin piles to SBJs removes piling as a construction activity.

This reduces the noise impacts during construction to levels not expected to give rise to meaningful disturbance or displacement of offshore bats. Therefore, the primary construction activities with the potential to disturb or displace offshore bats due to noise include vessel and helicopter use.

The first three paragraphs of this section shall be deleted of the 2024 EIAR and shall be replaced with the following:

Anthropogenic noise associated with offshore wind construction activities such as vessel and helicopter use, has the potential to disturb or displace offshore bats present within the array area due to:

- Auditory impacts; and/or
- Habitat-related impacts.

Within the offshore development area auditory impacts to offshore bats are most likely to be caused by vessel/helicopter movements during construction. Noise from helicopter movements will be (if required) for 1 no. trip per week during daylight hours for the duration of the WTG installation for a period of 7.5 months. Noise form vessel movements will be for the duration of the construction period.

Auditory disturbance of offshore bats from vessel and helicopter movements is expected to be limited, temporary, and unlikely to result in meaningful behavioural change at the population level, as recent research has shown that bats may be less sensitive to temporary threshold shifts than other terrestrial mammals (Simmons et al., 2016). Furthermore, onshore, bats are found in structures (bridges, railway tunnels, factories etc) that produce large amounts of noise and vibration and appear accustomed/ habituated to the noise levels in certain onshore contexts, noting that offshore responses remain less well understood.

There are no further changes to this section. Refer to Section 35.5.2.1 of Chapter 35 of the 2024 EIAR.

For clarity, the significance of effect remains unchanged from the 2024 EIAR. The potential for disturbance and displacement impact on offshore bats due to noise during construction has been assessed as temporary, restricted in duration and localised in extent.

No significant effects will be expected to occur as a result of noise during the construction activities of the offshore development area, which is not significant in EIA terms.

35.5.2.2 Impact 2 – Displacement and disturbance due to increased vessel activity and infrastructure presence during construction

The key change to this section is a very slight increase in the total number of construction vessels (was 67, now 70), a very slight increase in the total number of return trips during construction (was 3,008, now 3,032) and a very slight increase in the maximum number of vessels simultaneously onsite during construction (was 49, now 50) compared to the 2024 EIAR. This change in vessel numbers and vessel trips makes no change to the resulting magnitude or significance assessment, and thus the significance of effect remains unchanged.

For clarity, the significance of effect remains unchanged from the 2024 EIAR. The potential for disturbance and displacement impact on migratory bats during construction due to increased vessel activity and infrastructure presence has been assessed as temporary, restricted in duration, and localised in extent. It is also expected that for the very low number of bats that may be present within the ECC and array area there will be biologically insignificant responses to those impacts by the bats. Therefore, no significant effects in EIA terms will be expected to occur as a result increased vessel activity and infrastructure presence associated with Project Option 1, and the same has been assessed for Project Option 2 of the proposed development.

35.5.2.3 Impact 3 – Displacement and disturbance due to ALAN during construction

This section has been updated in response to RFI Sections 15 (a), 15 (c) and 15 (d), and to incorporate the 2024 offshore bat survey data, updated scientific literature, and the offshore bat baseline evidence now available from the Phase One Projects.

The original assessment conclusions presented in Section 35.5.2.3 of the 2024 EIAR remain valid.

The narrative below provides an expanded explanation of construction-phase lighting characteristics, associated displacement pathways, and how the updated 2024 baseline supports the conclusion that no significant effects are expected, in accordance with the RFI Sections 15 (a), 15 (c) and 15 (d).

Therefore, the following text shall be included in Section 35.5.2.3 of Chapter 35 of the 2024 EIAR:

Construction lighting associated with offshore works will be limited to navigational and safety lighting on installation vessels, jack-up platforms, cranes, and temporary surface-piercing structures. The Lighting and Marking Plan (refer to Appendix A17.3) confirms that these lights will consist of yellow flashing navigation markers with a 2.5-second flash cycle, a minimum 2-nautical-mile range and 360° visibility, while construction buoyage will employ cardinal and special marks visible to at least 5 nautical miles. No aviation obstruction lighting will operate during construction, except in the case of statutory crane notifications above 45 m.

These lights function strictly as short-range navigational markers and do not create continuous illumination fields. For this reason, lux-based modelling is not technically applicable to navigation markers, flashing lights do not produce measurable horizontal illuminance beyond a very localised area and cannot generate wide-area light spill associated with ecological effects (Walsh *et al*., 2025; Voigt *et al.*, 2021). This distinction between navigation markers and ecologically relevant light fields, is critical in offshore assessments and supports the conclusion that construction lighting will not influence bat behaviour.

The offshore environment already contains comparable lighting sources. The Navigational Risk Assessment (NRA) (refer to Appendix A17.1) demonstrates that an average of 39 vessels move daily through the wider area, with an average of ten vessels per day entering the array area depending on season. These vessels carry navigation and working lights that have long formed part of the ambient lighting baseline. There is no evidence from the offshore surveys that bats respond behaviourally to this existing illumination.

This is consistent with published research showing that offshore point-source lights do not create ecologically meaningful illuminated areas (Guest et al., 2022; Voigt et al., 2023; Walsh *et al*., 2025). The 2024 vessel survey recorded extremely low bat activity, with detections isolated and not associated with illuminated vessels or structures.

Together, these findings indicate that the temporary, navigational nature of construction lighting will not alter offshore lighting conditions in a way that influences bat presence, distribution or movement.

Migrating bats

The two migratory species of relevance Nathusius' pipistrelle and Leisler's bat, exhibit offshore movement when weather conditions favour energy-efficient travel. Extensive research (Troxell et al., 2019; Marggraf et al., 2023; Lagerveld et al., 2021, 2023) demonstrates that offshore migration is driven primarily by wind speed, wind direction, and temperature, with individuals selecting favourable meteorological windows and seldom engaging in foraging during transit flights (Šuba et al., 2012; Voigt et al., 2018). These studies consistently indicate that migration is optimised for efficiency and is not influenced by isolated offshore light sources. Furthermore, they do not function as mitigation measures nor reduce any impact arising from the Project; rather, they provide ecological context explaining why bats do not deviate in response to isolated offshore lighting.

Experimental and field evidence further shows that navigation lighting offshore does not attract or displace bats. Studies by Ahlén et al. (2009), Hüppop & Hill (2016) and Brabant et al. (2019, 2021) all report that movement is unaffected by offshore lighting and that bats commute past illuminated structures without deviation. The NRA (Appendix A17.1) baseline, which includes long-standing exposure to vessel lighting, and the 2024 vessel survey provide no indication of light-mediated behavioural change within the development area. Offshore ALAN therefore remains highly unlikely to influence migratory routing or behaviour.

For clarity, no significant effects will be expected to occur from displacement of migrating species because of disturbance and displacement resulting from ALAN within the offshore development area during the construction phase associated with Project Option 1, and the same has been assessed for Project Option 2 of the proposed development.

Foraging bats – from the mainland coast

Resident pipistrelle species generally forage within 2–3 km of their roosts (Lundy et al., 2011; BCT, 2020), and although they may occasionally be recorded several kilometres offshore (Ahlén et al., 2007; Boshamer & Bekker, 2008), such events are rare and opportunistic. Light-averse species such as Myotis and brown long-eared bat (Stone et al., 2012; ILP GN08/23) are even less likely to approach offshore illumination.

Given the distance of the array area from the mainland coast, construction lighting will be visible, if at all, as isolated points rather than continuous light fields. The LMP (Appendix A17.3) confirms that no broad area lighting is used during construction. Multi-year vessel presence documented in the NRA (Appendix A17.1) also demonstrates that mainland foraging bats already encounter intermittent offshore lights without evidence of attraction or displacement. Offshore survey data from 2024 similarly identified no sustained foraging offshore. Construction lighting is therefore highly unlikely to influence mainland foraging bats.

For clarity, no significant effects will be expected to occur from displacement of common, soprano, and Nathusius pipistrelle; and Leisler's bat species because of disturbance and displacement resulting from ALAN within the offshore development area during the construction phase associated with Project Option 1, and the same has been assessed for Project Option 2 of the proposed development.

Foraging bats – from Rockabill

Rockabill is the nearest location with confirmed offshore-associated bat activity. Multi-year surveys undertaken in 2022–2024 recorded Leisler's bat, Nathusius' pipistrelle, common pipistrelle and soprano pipistrelle on the island. Rockabill also contains a long-established lighthouse, which emits a much stronger and more continuous light signal than any temporary construction lighting associated with the Project. Bats using Rockabill are therefore routinely exposed to artificial illumination and are likely habituated to this lighting environment.

The updated 2024 Rockabill survey (Section 35.3.5.1) also confirmed the presence of only a single temporary Leisler's day roost within Building One and found no evidence of pipistrelle roosting, reinforcing the conclusion that roosting behaviour on the island does not create a meaningful pathway for light-mediated interactions with the array area.

Regular vessel movements through the Rockabill Gap (Appendix A17.1) add further intermittent point-source lighting to the offshore baseline, and these lights have been present for many years without any indication of behavioural response from bats recorded on the island. Construction lighting, which will comprise yellow flashing navigation markers with a short flash cycle and limited visibility range (Appendix A17.3), will be considerably less prominent than the lighthouse and confined to vessels and temporary surface-piercing structures. These navigation lights function as short-range safety markers and do not generate broad illumination fields (Walsh et al., 2025; Voigt et al., 2021).

Offshore ecological literature provides further support for this interpretation. Studies have shown that bats occasionally investigate offshore structures, but such behaviour is rare, opportunistic and typically associated with prey availability rather than lighting (Ahlén et al., 2007; Lagerveld et al., 2017). Reviews of artificial light at night indicate that ecological effects on bats are linked to wide-area or continuous illumination, not discrete flashing navigation lights (Voigt et al., 2021). More recent assessments of marine ALAN also highlight the extremely rapid decay of illuminance from offshore navigation lights, with negligible horizontal luminance beyond a short distance from the light source (Walsh et al., 2025).

Consistent with this evidence, the 2024 vessel survey did not record any indication of bats being attracted to illuminated vessels or structures. Offshore detections remained infrequent, short-duration and isolated, with no pattern suggesting a behavioural response to lighting (Section 13.3.5).

Given the substantially lower intensity of construction lighting compared with the lighthouse, the opportunistic nature of offshore bat foraging, and the multi-year survey data demonstrating negligible offshore activity, construction-phase ALAN is highly unlikely to displace or disturb bats from Rockabill or attract individuals into the array area.

This conclusion is supported by the comprehensive review of project lighting specifications, the established offshore baseline, recent offshore survey data and the wider body of scientific literature, all of which demonstrate that construction-phase ALAN will remain low-intensity and spatially limited.

As such, construction-phase artificial lighting at night is not predicted to give rise to significant displacement or disturbance effects on any bat species.

There are no further changes to this section. Refer to Section 35.5.2.3 of Chapter 35 of the 2024 EIAR.

For clarity, the significance of effect remains unchanged for displacement and disturbance of all bat species due to ALAN during construction. The significance of effect for all species remains not significant in EIA terms.

35.5.2.4 Impact 4 - Indirect displacement and disturbance resulting from changes to prey distribution during construction.

This section has been updated in response to RFI Sections 15 (a), 15 (b) and 15 (d); to incorporate the 2024 offshore bat survey data, updated scientific literature, the offshore bat baseline evidence now available from the Phase One Projects and to explain 'optimisation strategies'.

The original assessment conclusions presented in Section 35.5.2.4 of the 2024 EIAR remain valid. The additional narrative below provides an expanded explanation of construction-phase prey-mediated pathways and how the updated 2024 baseline supports the conclusion that no significant effects are expected.

Therefore, the following text shall be added to Section 35.5.2.4 of Chapter 35 of the 2024 EIAR:

As described in Impact 3 (Section 35.5.2.3), construction lighting will be limited to short-range flashing navigation markers used for vessel and safety illumination. These lights do not create continuous illuminated fields and do not produce lux levels capable of altering offshore invertebrate distribution. Illuminance from such point-source lights declines extremely rapidly with distance, falling to background levels within short ranges that preclude any substantial ecological influence (Walsh et al., 2025; Voigt et al., 2021). Offshore insect densities are substantially lower than those in terrestrial environments and show no measurable association with vessel navigation lighting (Ahlén et al., 2007).

Across all offshore wind EIARs submitted under Phase One Projects process to date, no project has identified any evidence that their proposed construction or navigation lighting alters prey distribution offshore or creates conditions conducive to prey aggregation. This includes Dublin Array, Codling Wind Park, Oriel Windfarm and Arklow Bank 2 (Bray Offshore Wind Limited & Kish Offshore Wind Limited , 2025; Codling Wind Park Ltd., 2024; Oriel Wind Farm Project, 2024 and Arklow Bank Wind Park 2, 2024), which reported no evidence of insect-mediated attraction and described offshore bat presence as extremely low and sporadic, infrequent and isolated. These established results directly support the proposed development conclusion that construction-phase ALAN will not influence offshore prey availability.

Migrating bats

Migratory bat species such as Nathusius' pipistrelle and Leisler's bat rely on energy-optimising strategies during long-distance movements, travelling predominantly when wind speeds, wind direction and temperature offer favourable conditions (Troxell et al., 2019; Marggraf et al., 2023). These species are not known to forage in any sustained manner during offshore migration. Studies of offshore bat behaviour indicate that migratory individuals feed prior to departure and maintain direct routes during transit, rarely interrupting flight to exploit offshore prey (Šuba et al., 2012; Voigt et al., 2018).

The 2024 vessel survey within the array area (Section 35.3.5) recorded extremely low activity levels, with detections being isolated and brief, and no evidence of prey-related foraging behaviour. These findings confirm that prey-mediated attraction is highly unlikely to occur during the construction phase.

This pattern is strongly supported by all recent Irish offshore EIARs. Dublin array, Codling, Oriel, and Arklow Bank 2 each report extremely low offshore detection rates, without evidence of foraging-related behaviour:

- Dublin Array: "*negligible offshore activity, consisting of isolated passes only*" (Bray Offshore Wind Limited & Kish Offshore Wind Limited , 2025)
- Codling: "*isolated detections with no sustained offshore use*" (Codling Wind Park Ltd., 2024)

- Oriel: "*activity extremely limited; no repeated or foraging-type detections*" (Oriel Wind Farm Project, 2024)
- Arklow Bank 2: "*multi-year monitoring indicates negligible offshore activity*" (Arklow Bank Wind Park 2, 2024)

These consistent findings across the Phase One Projects strongly reinforce the conclusion that offshore prey availability is insufficient to create any attraction pathway for migrating bats.

While rare offshore foraging events have been documented in other studies, these are associated with large, illuminated fixed platforms and are driven by unusual, localised insect aggregations rather than attraction to light itself (Lagerveld et al., 2017). No comparable source of illumination or prey concentration exists within the development area during construction. The species' natural optimisation strategies do not mitigate project impacts; however, they provide ecological context that explains why bats do not deviate in response to isolated offshore stimuli.

For clarity, no significant effects will be expected to occur from displacement of migrating species because of indirect disturbance and displacement resulting from changes to prey within the offshore development area during the construction phase associated with Project Option 1, and the same has been concluded for Project Option 2 of the proposed development.

Foraging bats – from the mainland coast

Mainland foraging species, particularly common and soprano pipistrelle, generally forage within a few kilometres of their roosts (Lundy et al., 2011; BCT, 2020). While occasional offshore records exist, they reflect short-range exploratory movements rather than intentional offshore foraging (Ahlén et al., 2007; Boshamer & Bekker, 2008). Offshore insect densities are insufficient to support viable foraging, and navigation lights do not create conditions conducive to insect aggregation or prolonged prey availability (Voigt et al., 2021).

Construction lighting at the proposed development will be visible from the mainland, if at all, only as distant point lights. No illuminated fields, halo effects or broad spectra known to attract insects will be present. The surveys undertaken between 2022 and 2024 (Section 35.3.3-35.3.5), demonstrates very low offshore activity with no behaviour indicative of prey exploitation. With no mechanism through which construction-phase lighting could increase prey availability, no indirect displacement or attraction pathway exists for coastal foraging bats. All Phase One Project EIARs have reached the same conclusion, coastal bats forage offshore as isolated events, and offshore prey availability is too low to sustain foraging behaviour (Bray Offshore Wind Limited & Kish Offshore Wind Limited , 2025; Codling Wind Park Ltd., 2024; Oriel Wind Farm Project, 2024 and Arklow Bank Wind Park 2, 2024).

For clarity, no significant effects will be expected to occur from displacement of common, soprano, and Nathusius pipistrelle; and Leisler's bat species because of indirect disturbance and displacement resulting from changes to prey distribution within the offshore development area during the construction phase associated with Project Option 1, and the same has been concluded for Project Option 2 of the proposed development.

Foraging bats – from Rockabill

Rockabill is the only location within the Study Area with consistent bat presence, including Leisler's bat, Nathusius' pipistrelle, common pipistrelle and soprano pipistrelle. Foraging on Rockabill is supported by the island's terrestrial invertebrate community and occurs in the presence of a high-intensity lighthouse that emits a much stronger and more continuous light signal than any temporary lighting associated with the proposed development.

Despite this powerful light source, which is far more capable of attracting insects than construction lighting, surveys (Section 35.3.-35.3.5) have shown that offshore foraging activity remains negligible. The 2024 Rockabill roost inspection (Section 35354) confirmed only a single temporary Leisler's bat day roost and no pipistrelle roosting, eliminating any pathway for a roost-associated prey-mediated interaction with the array area.

Offshore studies demonstrate that rare bat activity around offshore structures is driven by incidental insect availability, not light cues (Ahlén et al., 2007; Lagerveld et al., 2017; Guest et al., 2022). The 2024 vessel surveys recorded no evidence of bats being attracted to illuminated offshore features, and all offshore detections remained isolated and short-duration. This pattern is consistent with the other Phase One Project baselines.

Given the low offshore prey base, the limited nature of construction lighting, the lighthouse-dominated Rockabill light environment and the absence of any observed attraction patterns, construction-phase ALAN is highly unlikely to draw Rockabill-associated bats toward the array area through prey-mediated pathways.

There are no further changes to this section. Refer to Section 35.5.2.4 of Chapter 35 of the 2024 EIAR.

For clarity, the significance of effect remains unchanged for indirect displacement and disturbance of all bat species resulting from changes to prey distribution during the construction. The significance of effect for all species remains not significant in EIA terms.

35.5.3 Operational Phase

There are no changes to this section. Refer to Section 35.5.3 of Chapter 35 of the 2024 EIAR.

35.5.3.1 Impact 5 – Displacement and disturbance due to increased vessel activity and infrastructure presence during operation

There are no changes to this section. Refer to Section 35.5.3.1 of Chapter 35 of the 2024 EIAR.

For clarity, the significance of effect remains unchanged for displacement and disturbance of all bat species due to increased vessel activity and infrastructure presence during operation. The significance of effect for all species remains not significant in EIA terms.

35.5.3.2 Impact 6 – Displacement and disturbance due to ALAN during operation

This section has been updated in response to RFI Sections 15 (a), 15 (c) and 15 (d); to incorporate the 2024 offshore bat survey data, updated scientific literature, the offshore bat baseline evidence now available from the Phase One Projects and details regarding bat 'optimisation strategies'.

The original assessment conclusions presented in Section 35.5.3.2 of the 2024 EIAR remain valid. The additional narrative below provides an expanded explanation of operational-phase ALAN pathways and how the updated 2024 baseline supports the conclusion that no significant effects are expected.

Therefore, the following text shall be added to Section 35.5.3.2 of Chapter 35 of the 2024 EIAR:

Operational ALAN at the proposed development will consist solely of aviation obstruction lights placed at elevated positions on each WTG and OPS and marine navigation lights mounted on SPS and IPS structures between 6–30 m above highest astronomical tide (HAT). No permanent lighting is proposed within the ECC. Maintenance vessel presence will be infrequent and predominantly during daylight hours, meaning operational lighting in the offshore environment is limited to that installed on fixed infrastructure (Appendix A17.3).

These lighting systems operate as elevated, directional, point-source signals designed for long-range visibility rather than illumination of the surrounding environment. Aviation lights are baffled so that no light is emitted below the horizontal plane, while marine navigation lights use narrow optical profiles engineered to project horizontally rather than downward or upward.

Marine navigation lights are visible from the water surface, as required for navigational safety, but they do not illuminate the water surface. Their optical output is confined to a narrow horizontal band, with no downward or upward spill. As a result, they do not create lit patches, halo effects, or measurable illuminance on the water surface. Similarly, this lighting does not reach or illuminate the rotor-swept zone, as there is no upwards or downwards component to the emitted light and illuminance outside the horizontal beam decays to background levels within very short distances.

This optical behaviour is consistent with the offshore ALAN literature, which demonstrates that point-source navigation lights at sea do not create ecologically meaningful illuminated areas (Walsh et al., 2025; Voigt et al., 2021). Consequently, lux-based lighting footprint modelling is not technically applicable, as no continuous or mappable area of illumination is produced.

Across all Phase One Projects offshore wind EIARs, including Dublin Array / Bray & Kish Offshore Wind, Codling Wind Park, Oriel Wind Farm and Arklow Bank Wind Park 2, comparable offshore lighting arrangements for their proposed developments, generated no evidence of bat attraction, displacement, or increased offshore activity (Bray Offshore Wind Limited & Kish Offshore Wind Limited , 2025; Codling Wind Park Ltd., 2024; Oriel Wind Farm Project, 2024 and Arklow Bank Wind Park 2, 2024). These independent datasets provide strong regional precedent for concluding that operational ALAN does not influence bat distribution or behaviour at sea.

Migrating bats

A precautionary approach is applied, assuming that migratory species such as Nathusius' pipistrelle and Leisler's bat may occasionally occur within or pass through the array area during the operational phase. Contemporary telemetry and acoustic studies consistently show that offshore movement by these species is episodic, short-duration and strongly constrained by meteorological conditions, with bats selecting offshore crossing windows based on favourable wind direction, low wind speeds, and stable thermal conditions (Bach et al., 2022; Marggraf et al., 2023; Lagerveld et al., 2024). These behaviours reflect energetic optimisation strategies, whereby individuals select direct, efficient routes across open water and minimise unnecessary detours. These strategies are natural ecological adaptations, not mitigation measures, and therefore do not reduce impacts; rather, they explain why migratory bats do not deviate toward isolated offshore light sources.

The offshore acoustic datasets collected for Phase One Projects demonstrate that migratory species occur offshore only sporadically, and when detected, are present for extremely short durations. For example, the Dublin Array / Bray and Kish Offshore Wind EIAR recorded "*extremely low and sporadic offshore activity*," with no periodicity or temporal clustering indicative of migration corridors. Similarly, the Codling Wind Park EIAR documented "*isolated and infrequent detections*" across multi-season acoustic monitoring, again with no evidence of repeat movements or directional patterns consistent with migration.

Oriel Wind Farm reported that offshore bat activity was "*extremely limited*," comprising only occasional isolated calls without any indication of migratory or foraging behaviour offshore. In Arklow Bank Wind Park 2, multi-year datasets likewise showed "*negligible offshore bat activity*," with no identifiable migratory pathways or patterns of repeated passage by migratory bat species (Bray Offshore Wind Limited & Kish Offshore Wind Limited , 2025; Codling Wind Park Ltd., 2024; Oriel Wind Farm Project, 2024 and Arklow Bank Wind Park 2, 2024).

These independent datasets across four geographically distinct Phase One Projects collectively demonstrate a consistent regional baseline:

- offshore migratory bat presence is rare,
- detections are isolated,
- activity does not form spatial or temporal patterns,
- and no EIAR has identified a behavioural response to offshore lighting.

The proposed development survey dataset reflects this same pattern (Section 35.3). Offshore detections were extremely low in number, composed exclusively of short, isolated passes with no indication of repeated offshore movement, no clustering coinciding with known migration periods, and no evidence that individuals approached offshore structures or lighting. There is no data suggesting that operational ALAN influences the trajectory, behaviour or presence of migratory bats offshore at within the array area.

Given:

- the point-source and non-illuminating nature of operational aviation and navigational lighting,
- the absence of any illuminated fields or visual attractants offshore,

- the lack of insect aggregation in offshore waters,
- the sporadic and brief occurrence of migratory bats offshore at the proposed development and all other Phase One Projects, and
- scientific evidence showing that migratory decisions are driven by meteorological and energetic factors, not light cues,

No significant displacement or disturbance effects are predicted for migrating bats as a result of operational-phase ALAN under either project option.

Migration in the Irish Sea remains a low-probability, weather-dependent event, not a regular behaviour, and there is no evidence from any offshore wind EIAR to date that operational lighting influences or interacts with migratory bat ecology.

For clarity, no significant effects will be expected to occur from displacement of migrating species because of disturbance and displacement resulting from ALAN within the proposed offshore development area during the operation phase associated with Project Option 1, and the same has been concluded for Project Option 2 of the proposed development.

Foraging bats – from the mainland coast

Foraging activity along the mainland coast is strongly tied to terrestrial habitats where prey resources are concentrated (Section 35.3). The trends of species recorded along the coast tend to operate within constrained home ranges close to roosts and productive feeding areas, making offshore foraging an inherently inefficient strategy (Lundy et al., 2011). The open marine environment offers far fewer aerial insects, and bats show limited inclination to cross into low-reward habitat.

Monitoring results from Phase One Projects' offshore wind applications further reinforce the terrestrial bias of mainland-foraging species. Surveys for the Dublin Array/Bray & Kish Offshore Wind Project detected only sporadic, isolated calls offshore, with no behavioural indicators of feeding or exploratory foraging by shore-based bats.

Offshore monitoring undertaken for Codling Wind Park revealed a similar pattern, with detections described as infrequent and irregular, providing no evidence that mainland bats were utilising offshore waters for hunting. At Oriel Wind Farm, vessel-based and platform-mounted detectors recorded very low offshore activity, again with no indication of foraging behaviour offshore. Arklow Bank 2 likewise reported negligible offshore bat presence across multi-year datasets, and no observation of nearshore bats foraging at sea (Bray Offshore Wind Limited & Kish Offshore Wind Limited, 2025; Codling Wind Park Ltd., 2024; Oriel Wind Farm Project, 2024 and Arklow Bank Wind Park 2, 2024).

The survey results for the proposed development mirror these findings (Section 35.3.5.5). Recorded offshore passes were scarce, brief and not accompanied by feeding buzzes or other acoustic markers associated with pursuit of prey. No observations suggested that bats approached offshore structures, revisited the same area offshore, or lingered in a manner characteristic of feeding activity.

Operational lighting within the array area does not alter this baseline. As detailed above, aviation and navigation lights are engineered as directional safety signals and do not cast downward light or generate illuminated surfaces on the sea. Their photometric pattern consists of narrow horizontal beams that are visible but not illuminating. Because no light reaches the water surface or creates ambient glow, there is no mechanism for ALAN to attract insects, enhance prey availability, or provide visual cues for foraging.

Taking into account:

- the intrinsic foraging ecology of mainland pipistrelle species,
- consistently low offshore activity reported across all Phase One Project EIARs,
- the 2024 survey findings for the proposed development, and
- the lack of any illuminated or prey-supporting habitat offshore,

There is no credible route by which operational ALAN could draw mainland-foraging bats into the array area. As such, no operational displacement or attraction effects are anticipated.

For clarity, no significant effects will be expected to occur from displacement of common, soprano, and Nathusius pipistrelle; and Leisler's bat species because of disturbance and displacement resulting from ALAN within the offshore development area during the operation phase associated with Project Option 1, and the same has been concluded for Project Option 2 of the proposed development.

Foraging bats – from Rockabill

Rockabill island supports the most consistent bat presence within the study area. During the 2024 survey deployment, five species were recorded on the island, but activity was almost entirely dominated by Leisler's bat, which accounted for over 90% of all passes (1,306 of 1,317 detections) (Section 35.3.5). Pipistrelle species were recorded only occasionally, 5 soprano, 4 common, and 1 Nathusius' pipistrelle and one isolated Myotis pass was detected (the first across three years of survey).

A small Leisler's day roost was confirmed in Building One during emergence surveys in 2024. No pipistrelle roosting was identified in 2024, and the pipistrelle activity peaks seen in 2023 were not repeated, confirming that pipistrelle use of the island is opportunistic rather than persistent.

Although the marine vessel survey recorded a small number of offshore detections (20 Leisler's bat passes across five dates, 49 soprano pipistrelle passes on a single night, and one Nathusius' pipistrelle pass), these events were brief, isolated, and low in number, with no feeding buzzes or repeated spatial use. There is no evidence of sustained offshore foraging originating from Rockabill.

Given:

- the overwhelmingly island-centred activity patterns,
- the low offshore activity recorded across three years,
- the absence of pipistrelle roosts,
- the small size and temporary nature of the Leisler's roost,
- and the non-illuminating characteristics of operational ALAN,

There is no pathway by which operational lighting could attract or displace Rockabill-associated bats toward the array area.

No significant effect is therefore predicted for this receptor group.

There are no further changes to this section. Refer to Section 35.5.3.2 of Chapter 35 of the 2024 EIAR.

For clarity, the significance of effect remains unchanged for displacement and disturbance of all bat species due to ALAN during operation. The significance of effect for all species remains not significant in EIA terms.

35.5.3.3 Impact 7 - Indirect displacement and disturbance resulting from changes to prey distribution during operation

This section has been updated in response to RFI Sections 15 (a), 15 (c) and 15 (d); to incorporate the 2024 offshore bat survey data, updated scientific literature, the offshore bat baseline evidence now available from the Phase One Projects and details of bat 'optimisation strategies'.

The original assessment conclusions presented in Section 35.5.3.3 of the 2024 EIAR remain valid. The narrative below provides an expanded explanation of collision and barotrauma pathways during operation and sets out how the updated 2024 dataset, cross-year evidence and Phase One baselines support the conclusion that effects are not significant in EIA terms.

Therefore, the following text shall be added to Section 35.5.3.3 of Chapter 35 of the 2024 EIAR:

Operational lighting will be limited to baffled aviation obstruction lights and marine navigation lights. These fixtures emit narrow, directional beams intended solely for navigational visibility.

As established under Impacts 3 and 6 (Section 35.5.2.3 and 35.5.3.2, they do not emit downward or upward spill light, do not illuminate the water surface or rotor-swept zone, and do not generate measurable horizontal illuminance offshore. The optical behaviour of these fixtures means they cannot create light fields, halos or illuminated areas where insects may accumulate.

Published offshore studies show that insect densities in open marine waters are naturally low and highly variable, with no evidence that point-source offshore lighting can attract or concentrate insect prey (Walsh et al., 2025; Voigt et al., 2021). Academic research further demonstrates that ALAN influences insect distribution only in environments where insects already occur in high abundance, such as terrestrial or littoral zones, but not in offshore habitats where prey is sparse (Parkinson et al., 2020). This conclusion is consistent with all Phase One Project EIARs, including Dublin Array, Oriel and Arklow Bank 2, each of which found no evidence that operational navigation or aviation lighting increases offshore prey availability or results in prey-mediated attraction of bats (Bray Offshore Wind Limited & Kish Offshore Wind Limited , 2025; Oriel Wind Farm Project, 2024 and Arklow Bank Wind Park 2, 2024).

Given the absence of illuminated habitat offshore and the inherently low and spatially diffuse insect availability in the Irish Sea, operational ALAN at the proposed offshore development cannot modify prey distribution and therefore cannot create indirect attraction or disturbance pathways for bats.

Migrating bats

Migratory bat species exhibit 'optimisation strategies' during offshore movements, whereby individuals select flight conditions that minimise energetic cost, including favourable wind direction, wind speed and temperature, and typically follow direct, efficient crossing routes over open water. These behaviours are well established in the scientific literature and influence when and how bats occur offshore. Within this assessment, optimisation strategies are presented as ecological context only and are not relied upon as mitigation. The 2024 survey data demonstrate that offshore activity remains extremely low and episodic, indicating that while such behaviours may occur, they do not result in sustained offshore presence or interaction with the array area.

The 2024 survey results confirm that migrating bats appear only sporadically offshore, with all detections occurring as isolated events and none accompanied by feeding buzzes or foraging-related behaviour (Section 35.3.5).

These outcomes are consistent with the patterns reported in the Phase One Project EIARs, where migratory activity was also extremely limited and never associated with prey availability offshore. The original EIAR conclusion therefore remains valid.

Foraging bats – from the mainland coast

Mainland foraging bats continue to show strong reliance on terrestrial prey resources and no evidence of foraging offshore. The 2024 dataset (Section 35.3.5) contained only very low offshore pipistrelle activity and no feeding behaviour, fully supporting the conclusions of the 2024 EIAR. Operational ALAN does not illuminate the marine environment or influence prey availability, and no functional pathway exists to attract or displace mainland-foraging bats into the array area. The original EIAR conclusion remains valid.

Foraging bats – from Rockabill

Rockabill remains the only site within the study area where bats are consistently active, but the updated 2024 surveys (Section 35.3.5) confirms that this activity is overwhelmingly restricted to the island itself. Leisler's bat accounted for 1,306 of 1,317 recorded passes, while pipistrelle species occurred only rarely (five soprano pipistrelle, four common pipistrelle, one Nathusius' pipistrelle). A single Myotis record was documented, representing the only such record across all survey years. Emergence surveys confirmed the presence of a single small Leisler's day roost in Building One, while no pipistrelle roosting was identified, demonstrating that pipistrelle use of the island is intermittent rather than persistent.

Offshore detections from vessel-based surveys during 2024 (35.3.5.2) were similarly limited, comprising a handful of isolated passes with no feeding buzzes, no repeated site use, and no behavioural signatures consistent with offshore foraging. These limited observations are consistent with findings from Dublin Array, Oriel and Arklow Bank 2, each of which reported no prey-mediated offshore foraging.

As operational lighting cannot modify prey availability offshore and does not generate illuminated foraging areas, there is no plausible mechanism by which bats from Rockabill could be displaced toward the array area during operation in response to changes in prey distribution. Any incidental offshore movement would be short-lived, low-energy and ecologically insignificant.

Therefore, no significant effects will be expected to occur to foraging bats because of disturbance and displacement resulting from changes to prey within the array area during the operational and maintenance phase associated with Project Option 1, and the same has been concluded for Project Option 2 of the proposed development.

There are no further changes to this section. Refer to Section 35.5.3.3 of Chapter 35 of the 2024 EIAR.

For clarity, the significance of effect remains unchanged for indirect displacement and disturbance of all bat species resulting from changes to prey distribution during operation. The significance of effect for all species remains not significant in EIA terms.

35.5.3.4 Impact 8 – Collision and barotrauma

This section has been updated in response to RFI Sections 15 (a), 15 (b), 15 (d) and 15 (e); to incorporate the 2024 offshore bat survey data, updated scientific literature, the offshore bat baseline evidence now available from the Phase One Projects, and the updates made to Impacts 1–7.

This revised assessment replaces the original text and supersedes the assessment conclusions presented in Section 35.5.3.4 of the 2024 EIAR.

Therefore, the following text shall be added to Section 35.5.3.4 of Chapter 35 of the 2024 EIAR:

Across the 2022–2024 monitoring period, Rockabill Island and the coastal headlands were surveyed consistently, with offshore vessel-based monitoring undertaken in 2022 and 2024 (2024 providing the only valid offshore dataset). Combined, these surveys show that bat activity within and around the array area is consistently low, intermittent and short-duration, representing occasional offshore presence rather than sustained offshore use.

Rockabill activity in 2024 was dominated by Leisler's bat, including several short-duration peaks between 13–15 September.

Pipistrelle activity was very low (five soprano, four common, one Nathusius', and one Myotis), with the pipistrelle spike recorded in 2023 not recurring. Roost surveys in 2024 confirmed a single small, temporary Leisler's day roost in Building One; no pipistrelle roost was confirmed (Section 35.3.5).

Offshore detections in 2024 comprised:

- 20 Leisler's bat passes across five dates,
- 1 Nathusius' pipistrelle,
- 49 soprano pipistrelle passes in a single one-hour window.

These patterns align closely with other Phase One Project baselines (Oriel 2024; Arklow Bank Wind Park 2 2024), which also report very low offshore activity dominated by Leisler's bat with occasional pipistrelles.

As the dataset is acoustic and offshore weather data partially rely on proxy buoy stations, no inferences can be drawn regarding movement routes, flight heights or attraction/avoidance behaviour.

Collision and barotrauma both require bats to enter the rotor-swept zone, typically tens of metres above the sea surface. Although barotrauma has been described at terrestrial sites (Baerwald et al. 2008;), subsequent studies have questioned its role in the absence of collision (NREL, 2012; Lawson et al., 2020). Published offshore studies internationally, including European and North American projects, have not to date, confirmed bat collision, despite targeted monitoring systems such as thermal imaging, vibration sensors and multi-sensor detection platforms (Dirksen 2017; Offshore Wind Facts 2024).

While the presence of bats offshore cannot be discounted entirely, the number of individuals involved and the infrequency of occurrence mean that any interaction with offshore wind infrastructure would be rare and of negligible biological significance.

Migrating bats

Using a precautionary approach, it has been assumed that migratory species (Nathusius' pipistrelle and Leisler's bat) may pass through or over the array area during the operational phase. Evidence from the 2022–2024 survey programme (Section 35.3) confirms that offshore detections do occur but remain extremely low, intermittent and short-duration, with the 2024 vessel dataset recording Leisler's bats on five dates and a single Nathusius' pipistrelle pass on 28 September. These detections occurred within the recognised autumn migration window (August–October) but did not indicate sustained offshore use or repeated activity within the array area.

Contemporary tracking and acoustic studies (Bach et al. 2022; Marggraf et al. 2023; Lagerveld et al. 2024) show that offshore movements of Nathusius' pipistrelle are typically transient and governed by broad-scale meteorological and energetic conditions, rather than by isolated offshore structures. Leisler's bats are capable of sustained high-speed, high-altitude flight (often >40 km/h; Shiel 2006), enabling rapid crossings of open water and reducing the likelihood of prolonged offshore presence.

The turbine layout within the array area does not form linear features at a scale that could channel or concentrate migratory flight paths (such as hedgerows and woodland edges found at onshore windfarms), and no behavioural cues (e.g. lighting, prey availability (Sections 35.5.3.2 and 35.5.3.3)) exist that would attract migrating bats towards the turbines. Detection patterns in 2024 occurred under a broad range of wind speeds, including moderate and fresh breezes, indicating that offshore activity was opportunistic and weather-tolerant rather than indicative of directed migratory routing through the array area.

Internationally, despite targeted monitoring using vibration sensors, thermal imaging and multi-sensor detection systems, no offshore wind farm has presented a confirmed bat collision (Dirksen 2017; Offshore Wind Facts 2024). This evidence, combined with the extremely low offshore presence recorded at the array area by the surveys, supports the conclusion that exposure to the rotor-swept zone is negligible.

Given the low frequency of detections, absence of sustained offshore use, and the lack of any global precedent for offshore bat collisions, the magnitude of potential interaction is extremely small and the magnitude of impact is low.

Accordingly, no significant effects are predicted to occur to migrating bat species as a result of collision or barotrauma during the operational and maintenance phase associated with Project Option 1, and the same has been concluded for Project Option 2 of the proposed development.

Foraging bats – from the mainland coast

As set out under Impact 6 (Section 35.5.3.2), operational lighting on WTGs and the OSP consists of aviation and marine safety lighting designed as narrow, horizontal point sources that do not form an illuminated field and are not perceptible as operational illumination from the mainland. Accordingly, no attraction pathway exists by which mainland-foraging bats could be drawn into the offshore environment.

Across the 2022–2024 survey period, the coastal headland detectors at Balbriggan and Skerries consistently recorded substantially higher levels of pipistrelle and Leisler's activity than were ever recorded offshore, confirming strong fidelity to coastal and terrestrial habitats. No evidence of offshore foraging by mainland-origin species was detected in any survey year, and no behavioural signatures indicative of offshore feeding (e.g. feeding buzzes, circling behaviour, repeated use of offshore locations) were recorded during the 2024 vessel survey.

Given the absence of an attraction mechanism, the availability of high-quality foraging habitat along the mainland coastline, and the lack of any recorded offshore foraging behaviour, a collision or barotrauma pathway for mainland-foraging bats does not exist. Collision and barotrauma effects for this receptor group are therefore assessed as not significant.

Foraging bats – from Rockabill

Across all three survey seasons (2022–2024), Rockabill has consistently recorded the highest bat activity in the study area, dominated by Leisler's bat. Activity has been shown to vary across years (e.g. strong Leisler's peaks in 2022 and 2024; a pipistrelle spike in 2023), but in all years, detections have been limited to the island itself, with no evidence of sustained or repeated offshore foraging.

Roost inspections in 2024 confirmed a single, small, temporary Leisler's day roost and no pipistrelle roost, clarifying uncertainty from 2023 survey results. Offshore detections recorded by the vessel-based surveys in 2024 (the only valid offshore dataset) were very low and episodic and included no feeding buzzes and no signs of offshore foraging behaviour. These findings are consistent with the 2022–2023 pattern of activity and with other Phase One Project offshore wind baselines (Oriel, Arklow Bank 2), all of which show that bats rarely move offshore and do not forage at turbine distances (Oriel, 2024; Arklow Bank Wind Park 2, 2024).

As demonstrated under Impacts 6 and 7 (Section 35.5.3.2 and 35.5.3.3), operational ALAN will not create illuminated habitat offshore, and prey availability will not be enhanced around turbines. Without an attraction or foraging driver, and given the extremely low offshore detection rates across 2022–2024 (Section 35.3.5.50, rotor-swept interaction probabilities are negligible. International monitoring has also never presented a confirmed offshore bat collision, despite extensive targeted effort (Dirksen 2017; Offshore Wind Facts 2024).

Taking account of the full 2022–2024 dataset, updated roost evidence, the absence of offshore foraging behaviour, and the limited collision precedent at offshore wind farms, collision and barotrauma effects on Rockabill-associated bats are assessed as not significant.

Accordingly, no significant effects are predicted to occur as a result of collision or barotrauma during the operational and maintenance phase associated with Project Option 1, and the same has been concluded for Project Option 2 of the proposed development.

For clarity, the significance of effect remains unchanged for collision and barotrauma for migrating bat species and bats foraging from the mainland coast. However, for foraging bats from Rockabill, a revised assessment concludes no significant effects. Therefore, significance of effect for all species is not significant in EIA terms.

35.5.4 Decommissioning Phase

There are no changes to this section. Refer to Section 35.5.4 of Chapter 35 of the 2024 EIAR.

35.5.4.1 Impact 9 – Displacement and disturbance due to noise

There are no changes to this section. Refer to Section 35.5.4.1 of Chapter 35 of the 2024 EIAR.

For clarity, the significance of effect remains unchanged for displacement and disturbance of all bat species due to noise during decommissioning. The significance of effect for all species remains not significant in EIA terms.

35.5.4.2 Impact 10 - Displacement and disturbance due to increased vessel activity and infrastructure presence

There are no changes to this section. Refer to Section 35.5.4.2 of Chapter 35 of the 2024 EIAR.

For clarity, the significance of effect remains unchanged for displacement and disturbance of all bat species due to increased vessel activity and infrastructure presence. The significance of effect for all species remains not significant in EIA terms.

35.5.4.3 Impact 11 – Displacement and disturbance due to ALAN

There are no changes to this section. Refer to Section 35.5.4.3 of Chapter 35 of the 2024 EIAR.

For clarity, the significance of effect remains unchanged for displacement and disturbance of all bat species due to ALAN during decommissioning. The significance of effect for all species remains not significant in EIA terms.

35.5.4.4 Impact 12 – Indirect disturbance and displacement resulting from changes to prey

There are no changes to this section. Refer to Section 35.2.3 of Chapter 35 of the 2024 EIAR.

For clarity, the significance of effect remains unchanged for indirect displacement and disturbance of all bat species due changes in prey distribution during decommissioning. The significance of effect for all species remains not significant in EIA terms.

35.6 Mitigation and Monitoring Measures

35.6.1 Mitigation

The change in this section addresses RFI Section 15 (f) in which An Bord Pleanála requests The Developer examine the need for mitigation measures, and monitoring during the operational phase.

This section can be deleted in the 2024 EIAR and shall be replaced with the following:

In response to RFI Section 15 (f) and following the incorporation of the 2024 offshore bat monitoring results and the refinements made to Impacts 3, 4, 6, 7 and 8, the assessment concludes that no significant effects on bats are predicted to occur during the construction, operational or decommissioning phases of the proposed development. Offshore bat activity within the array area has been shown to occur at very low levels, consistent with other offshore wind projects in Irish waters, and any interactions with project infrastructure are expected to be rare, short-lived and of negligible biological consequence.

On this basis, additional mitigation measures such as curtailment or feathering are not considered necessary or proportionate for the proposed development. No bat-specific mitigation is therefore proposed. Standard environmental management measures associated with construction, operation and decommissioning will be implemented as part of the wider project environmental controls.

35.6.2 Monitoring

Surveys – 2024

This section shall be deleted from the 2024 EIAR. The 2024 surveys are detailed in Section 35.2.4 Data Collection and Collation and Section 35.3.5 Field Survey results 2024. Further details may be found in Appendix A35.1: Bat Monitoring Report 2024.

35.6.2.1 Further Monitoring

This section shall be updated with details of an Operational Monitoring Plan, drafted in response to RFI Section 1 (d). Therefore, the following shall be added to Section 35.6.2.1 of the 2024 EIAR:

An Operational Monitoring Plan (OMP, Appendix A6.3: Operational Monitoring Plan) has been drafted to outline the approach for delivering the anticipated monitoring measures required by conditions associated with any granted permission. The OMP provides a framework for a final OMP, which is anticipated to be required under conditions of the planning consent and will be developed post-consent.

A final detailed OMP will be submitted to the relevant authority for approval, prior to the start of construction, based on further discussions post consent with An Coimisiún Pleanála and the relevant regulatory authorities to agree the exact detail (timings, methodologies etc.) of the monitoring that is required.

There are no other changes to this section. Refer to Section 35.6.2.1 of Chapter 35 of the 2024 EIAR.

35.7 Residual Effects

This section has been updated to reflect the changes made to Section 35.5.

This section shall therefore be deleted in the 2024 EIAR and shall be replaced with the following:

This section presents the residual effects of the proposed development once the mitigation and monitoring provided in Section 35.6 has been applied to the potential effects.

Updated assessment of all impact pathways, including collision and barotrauma (Impact 8), confirms that no likely significant effects are predicted for any bat species. The 2024 survey results, combined with the refined understanding of lighting characteristics and behaviour-based risk pathways, demonstrate that neither the presence of turbines nor associated lighting gives rise to significant effects on coastal, migratory, or Rockabill-associated bats.

No mitigation has been proposed at this stage, therefore there is no difference between the pre-mitigation effects outlined in Section 35.5 and the residual effects. Table A35.4 provides a summary of the impact assessment outcomes.

Table A35.4 Residual effects relating to offshore bats (replaces Table 35.8 of the 2024 EIAR)

Potential impact	Likely significant effect Project Option 1	Likely significant effect Project Option 2	Residual effect – Project Option 1	Residual effect – Project Option 2
Construction				
Impact 1 - Disturbance and displacement due to noise	Not significant	Not significant	Not significant	Not significant
Impact 2 - Disturbance and displacement due to increased vessel activity and infrastructure presence	Not significant	Not significant	Not significant	Not significant
Impact 3 - Disturbance and displacement due to artificial lighting at night	Not significant	Not significant	Not significant	Not significant
Impact 4 – Indirect disturbance and displacement due to changes to prey	Not significant	Not significant	Not significant	Not significant
Operation				
Impact 5 - Disturbance and displacement due to increased vessel activity and infrastructure presence	Not significant	Not significant	Not significant	Not significant
Impact 6 - Disturbance and displacement due to artificial lighting at night	Not significant	Not significant	Not significant	Not significant
Impact 7 - Indirect disturbance and displacement due to changes to prey	Not significant	Not significant	Not significant	Not significant
Impact 8 - Collision and barotrauma	Not significant	Not significant	Not significant	Not significant
Decommissioning				
Impact 9 - Disturbance and displacement due to noise	Not significant	Not significant	Not significant	Not significant
Impact 10 - Disturbance and displacement due to increased vessel activity and infrastructure presence	Not significant	Not significant	Not significant	Not significant
Impact 11 - Disturbance and displacement due to artificial lighting at night	Not significant	Not significant	Not significant	Not significant
Impact 12 - Indirect disturbance and displacement due to changes to prey	Not significant	Not significant	Not significant	Not significant

35.8 Transboundary Effects

This section has been updated to reflect the changes made to Section 35.5.

The following text shall be deleted:

- *"Disturbance and displacement due to Artificial Lighting at Night (ALAN) during the construction, operational and maintenance and decommissioning phases. Overall, the two resident migratory species are likely to avoid the proposed development due to optimisation strategies. The two vagrant species are likely to avoid the proposed development due to ALAN. Therefore, no significant transboundary effects will be expected to occur because of disturbance and displacement due to ALAN.*

- *Indirect disturbance and displacement resulting from changes to prey during the construction, operational and maintenance and decommissioning phases. Overall, the two resident migratory species are likely to avoid the proposed development due to optimisation strategies. The two vagrant species are likely to avoid the proposed development due to ALAN. Therefore, no significant transboundary effects will be expected to occur because of disturbance and displacement resulting from changes to prey.*

- *Collision and Barotrauma during the operational and maintenance phase. While impacts to foraging species from the Rockabill population have been determined as significant based on the current baseline data, the two resident migratory species are likely to avoid the distraction of the proposed development due to optimisation strategies and the two vagrant species are likely to avoid the proposed development due to ALAN. Therefore, no significant transboundary effects will be expected to occur because of collision and barotrauma on migrating species."*

And replaced with:

- Disturbance and displacement due to ALAN during the construction, operational and maintenance and decommissioning phases. As detailed in Section 35.5, lighting associated with the proposed development comprises point-source marine and aviation safety lighting with no downward or horizontal spill. These lighting characteristics do not create conditions that would alter bat movement at transboundary scales. Therefore, no significant transboundary effects will be expected to occur because of disturbance and displacement due to ALAN.

- Indirect disturbance and displacement resulting from changes to prey during the construction, operational and maintenance and decommissioning phases. Overall, the two resident migratory species are likely to avoid the proposed development due to optimisation strategies.

  The two vagrant species are likely to avoid the proposed development due to ALAN. Section 35.5 confirms that lighting and operational conditions will not create illuminated areas or prey-aggregation zones capable of influencing bat movement beyond the immediate vicinity of each structure. Therefore, no significant transboundary effects will be expected to occur because of disturbance and displacement resulting from changes to prey.

- Collision and Barotrauma during the operational and maintenance phase. Updated assessment of Impact 8 has confirmed that collision and barotrauma effects are not significant for any bat group, including those associated with Rockabill. Offshore bat activity is low, episodic, and not indicative of regular transboundary movement, and turbine lighting or structure presence does not create additional collision pathways. Therefore, no significant transboundary effects will be expected to occur because of collision and barotrauma on migrating species.

There are no further changes to this section. Refer to Section 35.8 of Chapter 35 of the 2024 EIAR.

35.9 Cumulative Effects

The key changes to this section are the updating of text to reflect the minor change in cumulative assessment methodology to follow the Nationally Significant Infrastructure Projects (NSIP) (2024) guidance, as per RFI Section 5 and to reflect the changes made to Section 35.5.

The second paragraph shall be deleted;

"The Cumulative and Inter-Related Effects Chapter contains the outcome of Stage 1 Establishing the list of 'Other Existing and/or Approved Projects'; and Stage 2 'Screening of 'Other Existing and/or Approved Projects'. This section presents Stage 3, an assessment of whether the proposed development in combination with other projects, grouped in tiers, would be likely to have significant cumulative effects."

And replaced with:

Chapter 38**:** Cumulative and Inter-Related Effects contains the outcome of Stage 1 Establishing the list of 'Other Existing and/or Approved Projects'; Stage 2 'Screening of 'Other Existing and/or Approved Projects'; and provides the CEA conclusions in the NSIP Appendix 2: Matrix 1 – Assessment matrix. This section presents the full Stage 3 and Stage 4 assessment, which steps through whether the proposed development in combination with other projects, grouped in tiers, would be likely to have significant cumulative effects.

The fifth paragraph should be deleted;

"Given the location and nature of the proposed development, a tiered approach to establishing the list of other existing and/or approved projects has been undertaken in Stage 1 of the cumulative effects assessment. The tiering of projects is based on project relevance to the proposed development and it is not a hierarchical approach nor based on weighting. Further information on the tiers is provided in Section 11.10 and in the Cumulative and Inter-Related Effects Chapter."

And replaced with:

Given the location and nature of the proposed development, a tiered approach to establishing the list of other existing and/or approved projects has been undertaken in Stage 1 of the cumulative effects assessment. The tiering of projects is based on the NSIP 2024 guidance. Further information on the tiers is provided in Section 35.9.2 and in Chapter 38.

There are no further changes to this section. Refer to Section 35.9 of Chapter 35 of the 2024 EIAR.

35.9.1 Offshore bats cumulative screening exercise

There are no changes to this section. Refer to Section 35.9.1 of Chapter 35 of the 2024 EIAR.

35.9.2 Projects considered within the cumulative effects assessment

The key changes to this section are the updating of text to reflect the minor change in cumulative assessment methodology to follow the NSIP 2024 guidance, as per RFI Section 5.

The planned, existing and/or approved projects selected through the screening exercise as potentially relevant to the assessment of impacts to offshore bats are presented in Table A35.5 which replaces Table 35.9 in Chapter 35 of the 2042 EIAR.

The entire section shall be deleted and replaced with:

The planned, existing and/or approved projects selected through the screening exercise as potentially relevant to the assessment of impacts to offshore bats are presented in Table A35.5 which replaces Table 35.9 in Chapter 35 of the 2024 EIAR. The tiers for the assessment are:

- Tier 1 is all existing submitted and approved projects (not yet in operation/part of baseline), including. the OMF option being considered which involves the adaption and leasing part of an existing port facility at Greenore (further detail is provided in the Chapter 6) and the Phase One Projects.
- Tier 2 is all projects that have scoping reports or have a MAC.
- Tier 3 is all other projects that have been identified in the relevant Development Plans and other plans and programmes as appropriate.

The tiering structure is intended to provide an understanding of the potential for likely significant effects of the proposed development with the construction of all existing and submitted projects (tier one); followed by a cumulative assessment of the likely significant effect of that scenario combined with all projects that have a scoping report or Maritime Area Consent (MAC) (tier two); and lastly the combination of tier one and tier two with tier three, which is all other projects that have been identified in the relevant Development Plans and other plans and programmes which have been screened in.

Table A35.5 Projects and plans considered within the cumulative impact assessment (replaces Table 35.9 in Chapter 35 of the 2024 EIAR)

Development Type	Project	Status	Data Confidence	Distance to the proposed development		Justification for screening into the assessment
				Array area	ECC	
Tier 1	Operations Maintenance Facility (OMF)	The OMF has not been screened into offshore bat cumulative effects assessment				
Phase One Offshore Wind Farms	Oriel Wind Park		High – as planning application submitted May 2024. Further Information submitted Jan 2026 A foreshore licence has been granted for site investigations (2022-2027). Reference FS007383	16.9km	21.6km	Overlap in construction period, Oriel Wind Park due to construct during 2028-2030
	Dublin Array Offshore Wind Farm		High – as planning application submitted February 2025. A foreshore licence has been granted for site investigations (2022-2027). Reference FS007188. Site investigations have been undertaken and EIA in prep.	32.9km	37.6km	Overlap in construction period, Dublin Array due to construct during 2029-2032.
	Codling Wind Park	Phase One Concept/Early Planning (MAC awarded) Initial foreshore licence granted in 2005, more recently in 2021.	High – as planning application submitted September 2024. A foreshore licence has been granted for site investigations. Reference FS007045	50.9km	56.9km	Overlap in construction period, with Colding Wind Park due to construct during 2026-2029.
	Arklow Bank Phase 2	Phase One Concept/Early Planning (MAC awarded) Initial foreshore licence granted in 2020 - quashed but next FLA determined in 2022.	High – as planning application submitted June 2024. Further Information submitted March 2026 A foreshore licence has been granted for site investigations (2022-2027). Reference FS007339. Site investigations have been undertaken and EIA in prep.	76.4km	80.0km	Overlap in construction period with Arklow Bank Phase 2 due to construct during 2027-2030.
Tier 2	In Stage 2: Screening, there were no projects identified with the potential for interaction between effects with the proposed development.					
Tier 3	In Stage 2: Screening, there were no projects identified with the potential for interaction between effects with the proposed development.					

There are no other changes required to this section. Refer to Section 35.9.2 of Chapter 35 of the 2024 EIAR.

35.9.3 Project impacts and options included in the assessment

The change in this section is limited to the update replacing Table 35.10 of Chapter 35 of the 2024 EIAR with A35.6, this table reflects the update to impacts considered within this Chapter and the updated cumulative effects assessment that has been undertaken as per RFI Section 5.

Table A35.6 Potential cumulative impacts and tiers for assessment (replaces Table 35.10 of Chapter 35 of the 2024 EIAR)

Potential cumulative impact	Phase	Tiers and Projects	Justification for inclusion in cumulative effects assessment
1. Increase in noise during construction and decommissioning from construction activities	Construction/ Decommissioning	Tier 1 – Phase One Offshore Wind Farm Projects	Potential for noise increase due to the greater number of construction/ decommissioning activities.
2. Increased vessel activity and infrastructure presence	Construction/ Operation/ Decommissioning	Tier 1 – Phase One Offshore Wind Farm Projects	Potential for increases in activity and infrastructure due to the greater number of WTGs and longer construction/ decommissioning phases.
3. Increased artificial light at night	Construction/ Operation/ Decommissioning	Tier 1 – Phase One Offshore Wind Farm Projects	Potential for increased lighting due to the greater number of WTGs.
4. Indirect disturbance and displacement resulting from changes to prey distribution	Construction/ Operation/ Decommissioning	Tier 1 – Phase One Offshore Wind Farm Projects	Potential for indirect changes to prey due to the greater number of WTGs and therefore attraction of prey.
5. Collision and barotrauma	Operation	Tier 1 – Phase One Offshore Wind Farm Projects	Potential for collision and barotrauma due the greater number of WTGs.

There are no other changes required to this section. Refer to Section 35.9.3 of Chapter 35 of the 2024 EIAR.

35.9.4 Cumulative Impact 1 – Increase in noise during construction and decommissioning

The key changes to this section are the updating of text to reflect the minor change in cumulative assessment methodology to follow the NSIP 2024 guidance, as per RFI Section 5.

The entire section shall be deleted and replaced with:

35.9.4.1 Tier 1

Noise associated with the proposed development is limited to vessel and helicopter activity, with piling no longer required (Section 35.5.2.1). Noise effects are therefore temporary, intermittent and spatially restricted to the immediate vicinity of construction and decommissioning works.

While construction periods for Phase One Projects may overlap, noise generated by individual projects will be localised to their respective array areas and export cable corridors. Given the separation distance between projects, and the very low levels of offshore bat activity recorded across the Irish Sea, there is no mechanism by which noise from multiple projects could interact to produce a cumulative disturbance effect on bats.

On this basis, no likely significant cumulative effects are predicted in relation to noise during construction or decommissioning associated with both the proposed development and other projects which is not significant in EIA terms.

35.9.4.2 Tier 1 and 2

No Tier 2 projects have been scoped into the offshore bat cumulative effects assessment. Therefore, the cumulative assessment for Tiers 1 and 2 remains the same as the prior Tier 1 assessment; no significant cumulative effects will be expected to occur as a result of increased noise during construction and decommissioning associated with both the proposed development and other projects which is not significant in EIA terms.

35.9.4.3 Tier 1, 2 and 3 (All tiers)

No Tier 3 projects have been scoped into the offshore bat cumulative effects assessment. Therefore, the cumulative assessment for all tiers remains the same as the prior Tier 1 and Tier 2 assessment; no significant cumulative effects will be expected to occur as a result of increased noise during construction and decommissioning associated with both the proposed development and other projects which is not significant in EIA terms.

35.9.5 Cumulative Impact 2 – Increased vessel activity and infrastructure presence

The key changes to this section are the updating of text to reflect the minor change in cumulative assessment methodology to follow the NSIP 2024 guidance, as per RFI Section 5.

The entire section shall be deleted and replaced with:

35.9.5.1 Tier 1

Vessel activity associated with Tier 1 offshore wind projects will occur within discrete array areas and along defined transit routes. Offshore wind turbine and substation infrastructure associated with each project is also spatially fixed and separated by substantial distances. Refer to Chapter 6: Description of the Proposed Development Offshore and the Phase One Projects.

Survey data from the proposed development and other Phase One Projects indicate that offshore bat activity is extremely limited and episodic, with no evidence of sustained offshore use (Section 35.3). As such, even where construction, operational or decommissioning periods overlap, vessel activity and infrastructure presence remain confined to individual project areas and do not give rise to spatial overlap of disturbance zones relevant to bats.

Accordingly, no likely significant cumulative disturbance or displacement effects are predicted as a result of vessel activity or infrastructure presence during any phase of both the proposed development and other projects which is not significant in EIA terms.

35.9.5.2 Tier 1 and 2

No Tier 2 projects have been scoped into the offshore bat cumulative effects assessment. Therefore the cumulative assessment for Tiers 1 and 2 remains the same as the Tier 1 assessment; no significant cumulative effects will be expected to occur as a result of increased vessel activity and infrastructure presence during any phase associated with both the proposed development and other projects which is not significant in EIA terms.

35.9.5.3 Tier 1, 2 and 3 (All tiers)

No Tier 3 projects have been scoped into the offshore bat cumulative effects assessment. Therefore the cumulative assessment for all tiers remains the same as the Tier 1 and Tier 2 assessment; no significant cumulative effects will be expected to occur as a result of increased vessel activity and infrastructure presence associated with both the proposed development and other projects which is not significant in EIA terms.

35.9.6 Cumulative Impact 3 – Increased artificial light at night

The key changes to this section are the updating of text to reflect the minor change in cumulative assessment methodology to follow the NSIP 2024 guidance, as per RFI Section 5.

The entire section shall be deleted and replaced with:

35.9.6.1 Tier 1

Artificial lighting associated with Tier 1 projects comprises marine navigation and aviation safety lighting designed as directional, point-source signals rather than area illumination. As set out in Section 35.5.2.3 and 35.5.3.2, these lights do not generate illuminated fields or lux-based footprints offshore.

Given the distances between projects (closest offshore wind farm is Oriel Wind Park at 17km), lighting associated with one offshore wind farm will not be visible from another, and there is no plausible mechanism by which bats could be cumulatively influenced by isolated point-source lighting across multiple developments.

In combination with evidence demonstrating negligible offshore bat activity and no behavioural response to existing offshore lighting (Section 35.3), accordingly, no likely significant cumulative disturbance or displacement effects due to ALAN are predicted as a result of both the proposed development and other projects which is not significant in EIA terms.

35.9.6.2 Tier 1 and 2

No Tier 2 projects have been scoped into the offshore bat cumulative effects assessment. Therefore the cumulative assessment for Tiers 1 and 2 remains the same as the Tier 1 assessment; no significant cumulative effects will be expected to occur as a result of increased artificial light at night associated with both the proposed development and other projects which is not significant in EIA terms.

35.9.6.3 Tier 1, 2 and 3 (All tiers)

No Tier 3 projects have been scoped into the offshore bat cumulative effects assessment. Therefore the cumulative assessment for all tiers remains the same as the Tier 1 and Tier 2 assessment; no significant cumulative effects will be expected to occur as a result of increased artificial light at night associated with both the proposed development and other projects which is not significant in EIA terms.

35.9.7 Cumulative Impact 4 – Indirect disturbance and displacement resulting from changes to prey distribution

The key changes to this section are the updating of text to reflect the minor change in cumulative assessment methodology to follow the NSIP 2024 guidance, as per RFI Section 5.

The entire section shall be deleted and replaced with:

35.9.7.1 Tier 1

The revised impact assessment (Section 35.5) identifies that offshore prey availability is extremely limited and that artificial lighting and infrastructure associated with offshore wind developments do not create conditions capable of increasing insect abundance offshore.

As no individual project has been identified as giving rise to prey-mediated effects (Section 35.5; Bray Offshore Wind Limited & Kish Offshore Wind Limited , 2025; Codling Wind Park Ltd., 2024; Oriel Wind Farm Project, 2024 and Arklow Bank Wind Park 2, 2024), there is no pathway by which multiple projects could act together to influence prey distribution or bat behaviour indirectly.

Therefore, no likely significant cumulative effects are predicted with respect to indirect disturbance or displacement via changes to prey distribution associated with both the proposed development and other projects which is not significant in EIA terms.

35.9.7.2 Tier 1 and 2

No Tier 2 projects have been scoped into the offshore bat cumulative effects assessment. Therefore the cumulative assessment for Tiers 1 and 2 remains the same as the Tier 1 assessment; no significant cumulative effects will be expected to occur as a result of Indirect disturbance and displacement resulting from changes to prey distribution associated with both the proposed development and other projects which is not significant in EIA terms.

35.9.7.3 Tier 1, 2 and 3 (All tiers)

No Tier 3 projects have been scoped into the offshore bat cumulative effects assessment. Therefore the cumulative assessment for all tiers remains the same as the Tier 1 and Tier 2 assessment; no significant cumulative effects will be expected to occur as a result of Indirect disturbance and displacement resulting from changes to prey distribution associated with both the proposed development and other projects which is not significant in EIA terms.

35.9.8 Cumulative Impact 5 – Collision and barotrauma

The key changes to this section are the updating of text to reflect the minor change in cumulative assessment methodology to follow the NSIP 2024 guidance, as per RFI Section 5.

The entire section shall be deleted and replaced with:

35.9.8.1 Tier 1

The updated impact 8: collision and barotrauma assessment (Section 35.5.3.4) concludes that the proposed development does not give rise to significant effects, reflecting extremely low offshore bat occurrence and the absence of attraction mechanisms.

Although bats are capable of moving across large spatial scales, offshore survey data from all Phase One Projects (Bray Offshore Wind Limited & Kish Offshore Wind Limited , 2025; Codling Wind Park Ltd., 2024; Oriel Wind Farm Project, 2024 and Arklow Bank Wind Park 2, 2024) demonstrate that offshore presence is rare, short-duration and not indicative of repeated or regular movement between offshore wind farms. In addition, turbine layouts are spatially discrete and separated by substantial distances.

In the absence of sustained offshore bat activity, repeat exposure, or documented and released evidence of collision at offshore wind farms internationally (Section 35.3), no significant cumulative effects will be expected to occur as a result of cumulative collision or barotrauma effects associated with both the proposed development and other projects which is not significant in EIA terms.

35.9.8.2 Tier 1 and 2

No Tier 2 projects have been scoped into the offshore bat cumulative effects assessment. Therefore the cumulative assessment for Tiers 1 and 2 remains the same as the Tier 1 assessment; no significant cumulative effects will be expected to occur as a result of collision and barotrauma associated with both the proposed development and other projects which is not significant in EIA terms.

35.9.8.3 Tier 1, 2 and 3 (All tiers)

No Tier 3 projects have been scoped into the offshore bat cumulative effects assessment. Therefore the cumulative assessment for all tiers remains the same as the Tier 1 and Tier 2 assessment; no significant cumulative effects will be expected to occur as a result of collision and barotrauma associated with both the proposed development and other projects which is not significant in EIA terms.

35.10 References

As a result of updating relevant guidance and legislation, the following references are added to Section 35.10 of Chapter 35 of the 2024 EIAR:

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There are no other changes to this section. Refer to Section 35.10 of Chapter 35 of the 2024 EIAR.